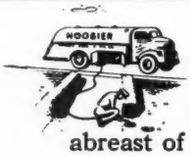
EAST ENGINEERING
LIBRARY

NOVEMBER
1948

NOV 16 1948

fueloil & oil heat

LARGE FUEL OIL FLEET
—equipped with BRODIE METERS...
KEEPS MORE HOME FIRES BURNING



Over the past decade Hoosier Coal & Oil Co. of Indianapolis has doubled their fleet of tank trucks to keep abreast of customers' heating oil needs. Throughout these expanding years Brodie Meters, equipped with Brodimatic Printers, have been of invaluable assistance in speeding up deliveries and cutting down errors, losses and delays. Ever since their first tank trucks went into service, Hoosier Coal & Oil Co. has relied on the dependability of Brodie Meters. Why not investigate Brodie Meters for your needs, today. Write for full details.

BRODIE METERS

RALPH N. BRODIE CO., INC.

61ST & LOWELL, OAKLAND 8, CALIFORNIA • *Division Offices:* CHRYSLER BLDG., NEW YORK CITY • 59 E. VAN BUREN, CHICAGO 5 • 302 SOUTH PEARL ST., DALLAS 1, TEXAS • 221–9TH AVE., NORTH SEATTLE 9, WASHINGTON • 2101 S. SAN PEDRO, LOS ANGELES 11, CALIFORNIA

REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES

VOL. 7, NO. 7

fueloil & oil heat

NOVEMBER 1948

Names in the News

Harold F. Smiddy on November 1 became general manager, Air Conditioning Dept., Bloomfield, N. J., succeeding George R. Prout, who has been named assistant general manager, G-E Nucleonics Dept. at the Hanford atomic energy works, Richland, Wash. Mr. Smiddy, who is continuing his present post as general manager, Chemical Dept., will maintain headquarters both at Bloomfield and Pittsfield, Mass. He joined the company in March 1948 and for five years before had been a partner in an industrial management consulting firm.

Charles A. Cooper, assistant general manager, Timken Silent Automatic Div., Timken-Detroit Axle Co., Jackson, Mich., has been placed in complete charge of operations at the Jackson and Oshkosh, Wis. plants. Formerly located in Detroit, Mr. Cooper's headquarters will be in Jackson. *John P. Telfer,* former manager of production at Oshkosh also has transferred to Jackson, to take charge of production there, retaining his title of factory manager. *Robert S. Kennedy* becomes assistant factory manager under Mr. Telfer; *Clyde Gabbert* becomes general foreman and superintendent of manufacturing operations at Oshkosh.

William H. Oliver, acting assistant superintendent of the iron dept., Louisville Works, American Radiator & Standard Sanitary Corp., has been promoted to general superintendent of the Bond plant at Buffalo. The Bond plant manufactures cast-iron boilers. Mr. Oliver has been associated with American-Standard for the past twelve years.

F. X. Fessler has been named manager of the Dayton district office, Penn

CONTENTS

SUBJECT	PAGE	AUTHOR
Sell Farm Oilheating	51	ROBERT GRAY
Low Pressure Burners	55	FRED FEIGENBAUM & JOHN E. DIGNAM
Teaching Control Service	60	MAURICE CLAYMAN
Automatic Register	63	HENRY A. ARONSON
Oddities In Servicing—II	65	J. W. SCHULZ
Ending Assorted Breakdowns	70	
Nu-Way Excavation Uncovers Old Pottery	74	

NEWS

Assure Public of Adequate Supply	54
O.H.I. Directors Meeting	59
Crude Increase Not Followed by Majors	61
NSRB Report Cracks at Oilburning	62
N.P.C. Finds Supply Outlook Bright	62
Observe "Oil Progress" Day	68
Coastal Oil Expands Terminal	76
Industry Eyes N.E. Fair Trade Code	78
G.M. Analyzes Railroad Diesel Demand	78
Gas Men See Continuing Heating Demand	78
Massachusetts Burner Courses	80

DEPARTMENTS

5	Names In The News
8	Editorial Leaks
10	Oilheating Trends
12	Fueloil Supplies
70	Service Short-Short
82	Everyday Snags
88	Readers' Problems
92	Manufacturers' Activities
102	Industry Groups
109	New Products
124	Book Shelf
128	Degree Day Tables

COPYRIGHT 1948, HEATING PUBLISHERS, INC. ALL RIGHTS RESERVED. NO PART MAY BE REPRINTED IN ANY FORM WITHOUT WRITTEN PERMISSION.
Acceptance under the Act of June 5, 1934, at Baltimore, Maryland, authorized February 7, 1946.

VOLUME 7, NUMBER 7 OF FUELOIL & OIL HEAT, PUBLISHED MONTHLY BY HEATING PUBLISHERS, INC., BALTIMORE, MD., AND 232 MADISON AVE., NEW YORK 16, N. Y., SUCCESSOR TO FUELOIL JOURNAL (1922) AND AIR CONDITIONING & OIL HEAT (1928), NOVEMBER, 1948.

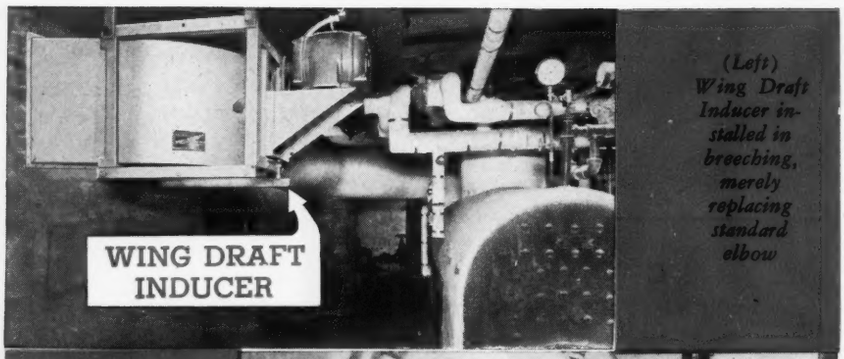
HEATING PUBLISHERS, INC., 232 Madison Ave., New York 16
Phone: LExington 2-4566 & 4567
LEOD D. BECKER, *Chairman, Board of Directors*

A. E. COBURN, *Editor* — ROBERT GRAY, *Business Manager* — A. G. WINKLER, *Advertising Manager*

Pacific Coast Representative: Don Harway
1709 West 8th St., Los Angeles 14, Cal. Phone: Fairfax 8576
57 Post St., San Francisco 4, Cal. Phone: Yukon 6-1069

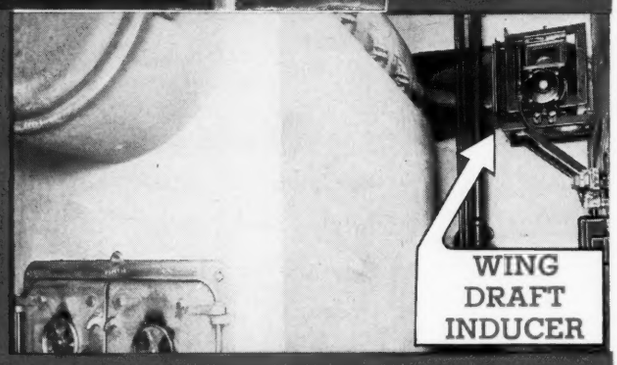
MEMBER CCA

Yearly: $3.00
Canadian: $4.00
single copy: this issue 35¢

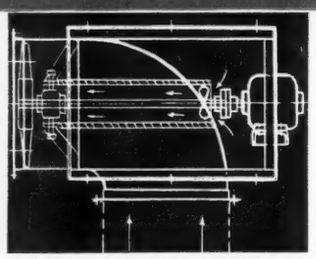


(Left) Wing Draft Inducer installed in breeching, merely replacing standard elbow

(Right) Wing Draft Inducer installed in elbow of breeching operating automatically with oil burner



How to Insure Positive Draft



Write for a copy of Bulletin on Wing Draft Inducers

Are you getting complete combustion on every job? If not it may be inadequate draft, which in turn may be due to a low chimney, or a small diameter chimney, or high surrounding structures "blanketing" your chimney, or complicated breeching —too long, too many elbows, etc.—or variations in the weather—wind in the wrong direction, "muggy" days, etc. When you install a Wing Draft Inducer, you are sure of even, constant suction and just the right amount of air for efficient combustion regardless of weather or size of chimney.

L. J. Wing Mfg. Co. **154 West 14th St., Dep't FO, N. Y. 11, N. Y.**

Factories: Newark, N. J. and Montreal, Canada

Wing

DRAFT INDUCERS

Electric Switch Co., Goshen, Ind., succeeding *E. A. Price,* who was made manager of the New York district office. Mr. Fessler spent several years as a fuel and combustion engineer with the Carter Coal Co. and before joining Penn was general manager, Dayton Heating Supply Co.

Walter D. Binger has been elected a director, National Radiator Co., Johnstown, Pa. He is vice-president of the City Investing Co. and president of the City Construction Co., New York City. He engaged in private practice as a consulting engineer prior to his appointment by Mayor LaGuardia as a New York City Commissioner. In this capacity, he was in charge of the design and construction of the East River Drive and Wards Island Sewage Treatment Works, among other municipal improvements. Mr. Binger is chairman, National Technological Advisory Committee and consultant to the Office of the Secretary of Defense.

William H. Flanagan has been appointed Midwest regional manager by Granberg Corp., Oakland, Cal. His headquarters are at 20 E. Jackson Blvd., Chicago, from which he will cover the territory of Wisconsin, Minnesota, Iowa, eastern Missouri, Illinois, Indiana, Ohio, Michigan and northern Kentucky.

Willis G. Pennington has joined the sales staff of Dole Valve Co., Chicago 12, Ill., and will handle sales and promotional activities in the Chicago area. His efforts will be concentrated primarily on automatic registers and the new No. 20 automatic hot water air valve. He has been active in the heating industry since 1936, with experience as district manager for Iroquois Coal's stoker division; branch manager for Peerless Mfg.; sales director, Automatic Devices.

Al Bailey has been named general manager, Kieley & Mueller, North Bergen, N. J., manufacturers of automatic control valves. He will make his headquarters at the company's plant, but plans also to spend considerable time in the field with distributors.

Simply awful, aren't they?

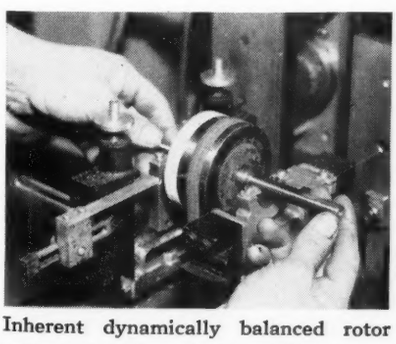
THE ladies found wartime hose poor substitutes for sheer nylon beauty. Men agreed.

Reluctantly, many reputable oil burner manufacturers had to substitute "off-brand" motors in the postwar days of scarcity. Thousands of these motors have already stretched customer patience out of shape. Thousands more will.

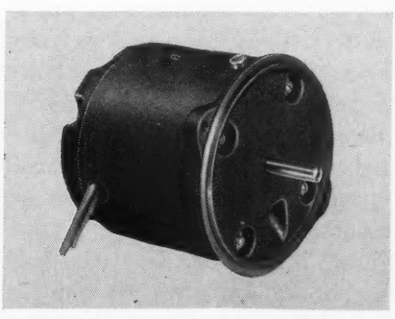
How many oil burners did you install with substitute motors?

Prepare now for winter by replacing doubtful power with proved Ohio Motors. Many of the first Ohio Motors built 20 years ago *are still in service.* Dependable performance explains why, through the years, one-third of all oil burners have been powered by Ohio.

Order Ohio replacement motors today from your oil burner manufacturer—direct from us if he cannot supply you. And specify OHIO on your next oil burner order—*for superior performance and complete customer satisfaction.* The Ohio Electric Mfg. Co., 5913 Maurice Avenue, Cleveland, Ohio.



Inherent dynamically balanced rotor assures smooth, quiet operation.



Ohio Motors are built to NEMA or other specifications, as desired.

ohio
MOTORS

The motor customers write about *enthusiastically.*

Editorial Leaks

As the presidential candidates came into the home stretch late in October even the front-running contestant felt called upon to promise more and better "controls" on industry. The best talent the country could muster under the urgency of war could not "plan" an economy that could be kept in balance, but the feeling seems to persist in the minds of politicians that their particular brand of poison will keep the patient well and strong. Nobody seems to hate dictatorial bureaucracy except that managed by the other fellow.

Specifically we do not like the growing interest politicians and some others are showing in oil industry regulation. The planners hint that the way to secure an abundance of oil for possible military needs and for future generations is to clamp restrictions on the consumption of oil products. Characteristically, this suggested planning thinks first of cutting consumption, not of expanding production. There are hints of rationing present users and forbidding oil to all but selected new users. Though this is not likely to come to pass in the immediate future, we can be sure that government regulation of industry will follow that pattern when it comes.

The country is emerging from a long era of wet-nursing by government. The idea has been sold long and hard that the brains of the country were all in Washington, and only the federal government was competent to decide who should rake leaves, do business or govern the world. It is fairly clear that the American public is thoroughly fed up with government control of every phase of individual and business life, and any attempt to continue bureaucratic meddling will be a mistake. Intelligent self-interest in an atmosphere conducive to work can be depended upon to solve as many of our problems in the future as it did in the many years before our government became omniscient.

We believe the public is capable of making up its own mind how it wants its natural resources used. The American people should decide whether they would rather have gasoline for a Sunday afternoon drive, or distillate to keep the house warm; whether they want the steel used to make pin-ball machines or battleships; whether they will burn their coal as it comes from the ground or liquefied; whether they will eat their rye or drink it.

◈

More rules and regulations for the conduct of a retail oilheating business are under consideration by the Federal Trade Commission. A suggested Code of Fair Trade Practices was drawn for the industry in New England, and a hearing was held in Boston, September 30, at which OHI of New England was prominent, though denied sponsorship.

The proposed rules, if adopted, would make no new law. They codify existing law contained in such regulations as the Robinson-Patman act, Sherman act, Clayton act, etc., but the effect is that of writing new rules for the conduct of the business.

Further, Federal Trade officials stated clearly during the hearing that once adopted for New England, these rules would be applicable and enforceable in every part of the country. In effect New England is sponsoring and asking for the adoption of a Code for the whole country. Though dealers and others will be permitted to attend a final hearing to be held sometime in the future at Washington, a small part of the country's 13,000 oilheating dealers will have a voice in formulating or revising this code.

As far as is known, this is the first time a Fair Trade Practice Code has been attempted for so large and so diversified an industry as the retail oilheating business. Existing codes apply mainly to relatively small and well defined manufacturing and wholesale businesses with a much narrower primary field than the home-owning public. Policing and enforcement will be complicated in proportion to the larger number of outlets affected.

We are against sin, depression and the man-eating shark. We are strongly in favor or morality and prosperity, but we believe existing rules and regulations adequately protect the trade and the public. It has been demonstrated that ethics cannot be legislated into the American people, and it seems pointless to encourage enactment of repetitious rules that add nothing to present federal or moral law.

We refuse to believe the oilheating industry is so lawless as to need a special code to point up the laws against lying, fraud and deception. The public has made no request for a code to protect against us.

◈

Talk of a business recession is not confined to the oilheating industry. The F. W. Dodge Corporation recently has completed a survey among 112 leading economists which shows that 64 of them expect a business recession in 1949, and more than 70% of them expect it before the middle of the year. Some think it already has started.

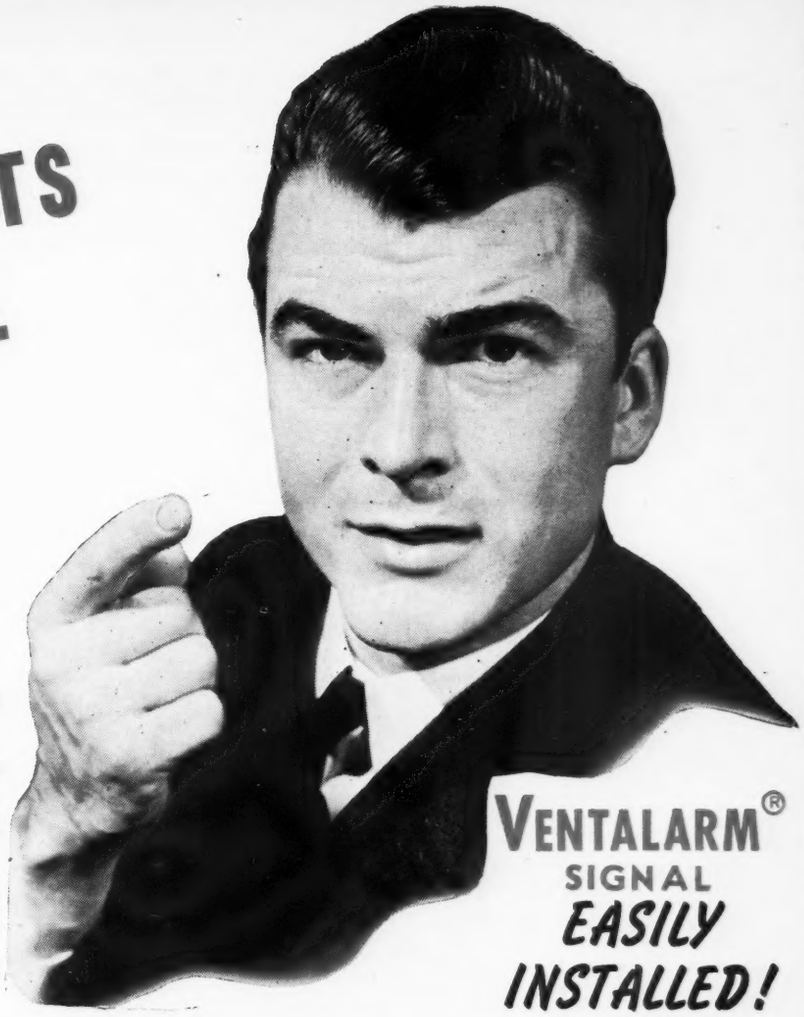
Fifty-one of those who expect a setback think it will be mild; 10 say it will be moderately serious, and three think it will be serious or of long duration. Forty-seven of the total economists polled see no slump at all in the next year.

We can think of no more potent reason for urging the speedup of sales force reorganization in this industry. In too many places the building of an adequate trained sales force is proceeding slowly. There seems to be a feeling that the prospects will continue to ask for oilburners for some months to come, and the sales-getting department can be built leisurely. This same theory caught a large segment of our industry with their hands in their pockets last spring and summer. A sudden dip in the general level of prosperity in the next few months would catch too many dealers with no means of getting business.

As late as July this year, buyers were making the initial contact on 44% of oilburner sales, W. A. Matheson told his sales force last month. Dealers made the first contact in only 56% of the completed sales. In short, dealers are *selling* only little more than half the present volume of business.

Every dealer will do well to examine his current sales and see if he can be satisfied with the volume of business he is creating. That is the only volume he is likely to have after the next few months.

"IT SAVES US ABOUT 50 CENTS ON EACH FUEL DELIVERY"



Unless your company is now using VENTALARM signals 100%, the following quotation should be of great interest.

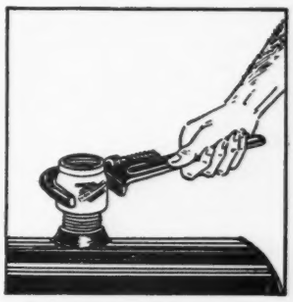
VENTALARM® SIGNAL EASILY INSTALLED!

On Oct. 6th, 1948, Mr. O. F. Minor of the New York Division of the Shell Oil Company Incorporated gave a public address before the Ohio Petroleum Marketers Association. The address was entitled THE "FORWARD LOOK" FOR PETROLEUM DISTRIBUTION. In dealing with the trucking phase, Mr. Minor made the following statement:

> "The big improvements here will come through the speeding up of loading and unloading operations.
>
> "One way in which we accomplish one phase of this is through the use of the VENTALARM on customers' fuel oil tanks. The alarm whistles while the tank is being filled and stops when the fuel reaches a safe top level. This relieves the driver of need to leave the truck several times to stick the tank, and it saves us about 50 cents on each fuel delivery."

Your executive decision NOW will save YOUR company MONEY!

The LC model VENTALARM signal is easily installed on old tanks. A quick compression fitting with bayonette lock eliminates any pipe threading. Takes only 15 to 20 minutes.



The LA model VENTALARM signal is installed on tank when new burner is being put in. Threaded top receives threaded vent pipe in usual manner. No extra time required.

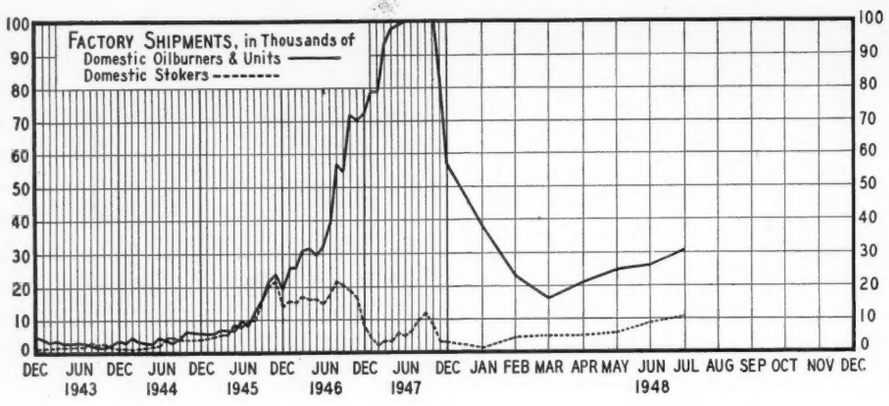
In stock at your favorite supply house

VENTALARM®

Whistling Tank Fill Signal

SCULLY SIGNAL CO., 76 FIRST ST., CAMBRIDGE 41, MASS.

Canadian Licensee — EMPIRE BRASS MFG. CO., LTD., London, Ontario


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units ——
Domestic Stokers --------
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1943 1944 1945 1946 1947 1948

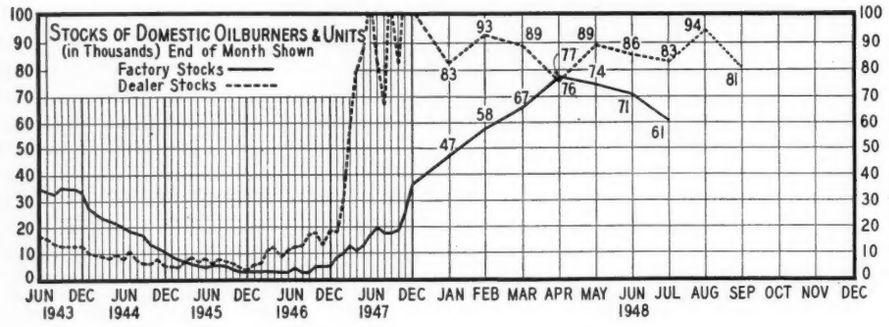
Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 152 reporting to Census Bureau, FUELOIL & OIL HEAT'S estimates of shipments are:

	AUGUST			EIGHT MONTHS		
	1948	*1947*	*Percent Change*	*1948**	*1947*	*Percent Change*
Conversion	34,706	100,050	— 65.3	158,143	633,796	— 75.0
Boiler units	4,318	5,356	— 19.4	20,845	36,414	— 42.8
Furnace units	11,072	20,467	— 45.9	51,209	121,460	— 57.8
All Domestic	50,096	125,873	— 60.2	230,197	791,670	— 70.9
Commercial	2,621	4,457	— 41.2	18,894	35,713	— 52.9
Total	52,717	130,330	— 59.6	249,091	827,383	— 69.9

*Revised figures for July.

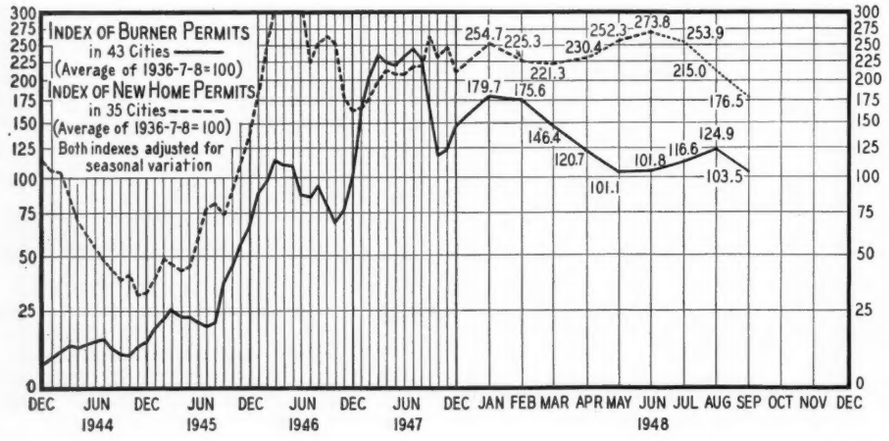

STOCKS OF DOMESTIC OILBURNERS & UNITS
(in Thousands) End of Month Shown
Factory Stocks ——
Dealer Stocks ------
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1943 1944 1945 1946 1947 1948

September Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
Highest	$500	$1150	$1200
Lowest	249	360	350
Sept. Aver.	349	717	622
Aug. Aver.	349	704	618

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE				RETAIL			
Sept.	145.8	Six months ago	150.6		September	147.2	Six-months ago	149.4
August	144.8	Year ago	140.1		August	149.6	Year ago	144.2


INDEX OF BURNER PERMITS
in 43 Cities ——
(Average of 1936-7-8=100)
INDEX OF NEW HOME PERMITS
in 35 Cities -----
(Average of 1936-7-8=100)
Both indexes adjusted for seasonal variation
DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1944 1945 1946 1947 1948

Oilheating Trends

SEPTEMBER INSTALLATIONS OF domestic oilburners and units are estimated at 50,654, the best month yet this year, but still considerably lower than many had expected the month to show. The September installations were divided as follows: New Homes 17,526; Replacements 8,003; and Conversions from other fuels 25,125. Estimated total sales for the first nine months of the year were 317,928, and these were divided: New Homes 112,955; Replacements 68,056; Conversions from other fuels 136,917.

With September figures lower than expected, it now appears questionable if the total will reach a half million as anticipated at the time of last month's issue. With new oil users in nine months totalling only 250,000, it is obvious now that the year's total will not come up to the four hundred thousand that had been expected for this group.

BURNER STOCKS: Stocks of domestic oilburners and units in dealers' hands on October 1 were approximately 80,611. The month before they had been 94,289, showing that dealers were making a number of September installations out of their inventories. Factory stocks on July 31, latest available data, were 61,006, compared with 71,197 the previous month.

POSTCARD BURNERS: Several oilburner manufacturers who do not maintain selling forces in the field depend on selling their product principally by mail, under the inducement of low price. As was done before the war, these manufacturers have been conducting postcard campaigns announcing lower and lower prices to dealers who are willing to buy burners strictly as a commodity. Because there had been considerable discussion about these postcard burners, reporting dealers were asked this month for their experiences. Virtually all of them had received some of the postcards, but only three per cent of those reporting have bought burners through that method of distribution. Those dealers who buy that type of burner say that they account for 55% of their total purchases, on the average. There is quite a wide variation between the lowest prices received on the postcards by the dealers. Two per cent of those reporting had cards offering burners for less than $50; 8% had

their lowest prices between $50 and $59; 31% have been quoted $60 to $69; 36%, or the largest group, say their lowest offer has been between $70 and $79; the remaining 23% report their lowest postcard offer at $80 or over. Among all reporting dealers, the average of the lowest price mentioned by each dealer was $72.

MATERIAL SHORTAGES: There have been so many recent complaints about difficulty in getting the larger sizes of pipe and fittings that it was decided to measure the extent of this difficulty. Dealers were asked what materials, if any, were short to the point of causing them difficulty. Thirty-five per cent of dealers say that they are experiencing no shortages whatever; 46% report difficulty with large size pipe and fittings; 7% find it hard to get tanks, particularly the sizes from 550 gals. up; 6% report trouble finding sheet metal for ductwork. Other items mentioned by occasional dealers as being scarce were boiler-burner units, furnace-burner units, electric supplies, warm-air registers, and radiators.

To put an actual time measure on the dealers' difficulty in getting material, we asked how quickly they can assure the buyer of complete installation after he places the order. The average time by all reporting was 15 days, but there was considerable variation between dealers. Thirty-three per cent mentioned 10 days or less; 30% 10 to 19 days; 33% 20 to 30 days; and 4% over 30 days.

COLLECTIONS: Last month one of the reporting dealers asked if we would include a question this month on collections so that he could compare his experiences with others. Reports indicate that 7% of fueloil customers, countrywide, still owe the dealer for oil they got last Spring, or earlier. Then to get an idea of general credit conditions, the dealers were asked how their accounts receivable on approximately October 10 would relate to their total dollar billing in September. The composite answer is 65%. In other words, for each one thousand dollars billed in September, the dealers' books on October 10 showed $650 outstanding. This, of course, was not necessarily related to actual September business, since some of the $650 would represent slow accounts from earlier months. Only 9½% of fueloil customers, on the average, are handled on a C.O.D. basis. This percentage would be inclined to increase in the months ahead, unless collections get a little better. Actually, of course, credit and collection conditions with most industries are more favorable than they were in normal times before the war, but we have been going through such an easy cash period that any tightening up comes sharply into focus.

SUMMER FILL-UP: There was virtually no change in the per cent of customers having summer fill-ups by September 30, compared with the month previous. The countrywide average was 73%, exactly the same as on August 31. New England dealers reported this time 80%; Mid-Atlantic 68%; and Midwest 76%. The 73% fill-up at the end of September established an all-time record and compares with a normal 58 to 59%. The fact that this high percentage had

(Continued on page 127)

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
Sept.		10 MONTHS			Sept.		10 MONTHS	
1948	1947	1948	1947		1948	1947	1948	1947
25	718	1130	8141	Baltimore, Md.	386	374	3168	2307
..	..	..	..	Binghamton, N. Y.	26	4	122	79
..	..	..	..	Bloomfield, N. J.	11	..	..	..
..	..	..	..	Boston, Mass.	20	59	256	406
110	154	614	1127	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	35	28	..	153
..	..	..	..	Des Moines, Iowa	93	132	742	755
..	..	..	..	Detroit, Mich.	451	1185	5822	7571
32	101	321	517	Elizabeth, N. J.	3	2	20	78
32	45	172	295	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	21	25	214	170
..	..	..	..	Hackensack, N. J.	8	3	..	28
348	259	964	1371	Hartford, Conn.	..	..	..	..
23	54	133	384	Irvington, N. J.	1	3	..	21
..	..	..	..	Lynn, Mass.	10	7	130	83
40	36	..	259	Meriden, Conn.	..	..	..	..
252	274	1448	2030	Milwaukee, Wisc.	181	164	1441	990
120	326	819	1526	Minneapolis, Minn.	98	169	1030	800
27	56	179	264	Montclair, N. J.	..	..	..	..
25	53	176	384	Mt. Vernon, N. Y.	..	..	..	..
140	51	582	480	New Bedford, Mass.	..	..	..	..
98	76	353	607	New Haven, Conn.	..	..	..	..
0	0	0	0	New Orleans, La.	..	..	..	..
16	43	102	250	New Rochelle, N. Y.	12	5	77	57
..	3928	..	40,166	New York City (total)	..	..	..	..
..	3874	..	33,374	Brooklyn-Queens	..	..	..	..
..	54	..	6692	Manhattan, Bronx, Rchd	..	..	..	..
106	84	1054	721	Norfolk, Va.	56	123	471	632
1	0	10	11	Oakland, Calif.	..	..	..	..
101	275	794	1696	Omaha, Nebr.	54	134	..	648
15	42	105	206	Orange, N. J.	0	0	11	5
30	..	196	..	Passaic, N. J.	..	..	..	..
75	152	372	868	Paterson, N. J.	16	12	89	54
609	1758	3833	10,216	Philadelphia, Pa.	..	..	..	..
..	..	..	..	Plainfield, N. J.	10	8	72	114
37	139	233	750	Portland, Me.	18	14	125	126
..	1444	..	7515	Portland, Ore.	181	157	1387	1036
21	39	122	222	Poughkeepsie, N. Y.	..	..	..	..
57	93	457	846	Providence, R. I.	18	29	143	118
..	..	..	..	Reading, Penna.	7	3	33	20
76	166	599	1194	Richmond, Va.	35	60	752	539
182	354	1191	2922	Rochester, N. Y.	..	..	..	..
50	53	208	222	Rockville Center, N. Y.	10	24	159	153
41	49	157	248	Salem, Mass.	18	4	91	36
276	359	1199	2099	St. Louis, Mo.	..	41	..	275
144	375	917	2326	St. Paul, Minn.	..	129	..	800
..	30	..	652	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	149	171	..	1426
..	..	..	..	Springfield, Mass.	45	73	431	312
..	38	..	278	Stamford, Conn.	..	..	..	..
..	..	..	..	Trenton, N. J.	4	3	25	54
..	..	..	..	Utica, N. Y.	6	12	105	59
217	358	1134	2453	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	17	8	122	71
20	46	160	233	White Plains, N. Y.	4	8	65	52
119	159	667	841	Wilmington, Dela.	6	18	97	84
..	173	..	1208	Worcester, Mass.	..	..	..	..
55	69	220	494	Yonkers, N. Y.	..	..	..	..
3490	6816	20,425	45,944	Totals	2010	3021	17,200	16,761
—48.8		—55.6		*Percent Change*	—33.5		+2.6	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

your most dependable source

BRASS FITTINGS

a complete line of brass fittings for copper tubing installations for gas and oil line use

BRASS FITTINGS OF MERIT CS

write for catalog H

C-S

BRASS MFG. CO.

148 West 62nd St. New York 23, N.Y.

Circle 6-5249

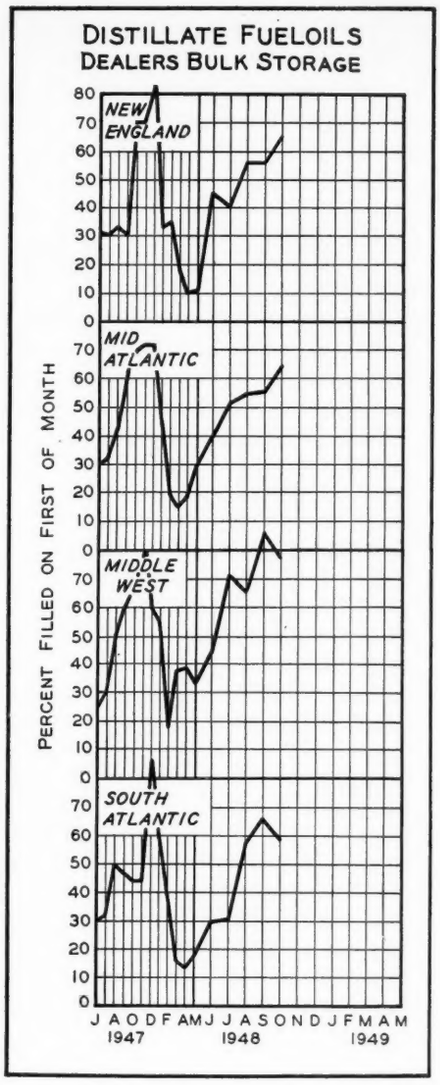
Fueloil Supplies

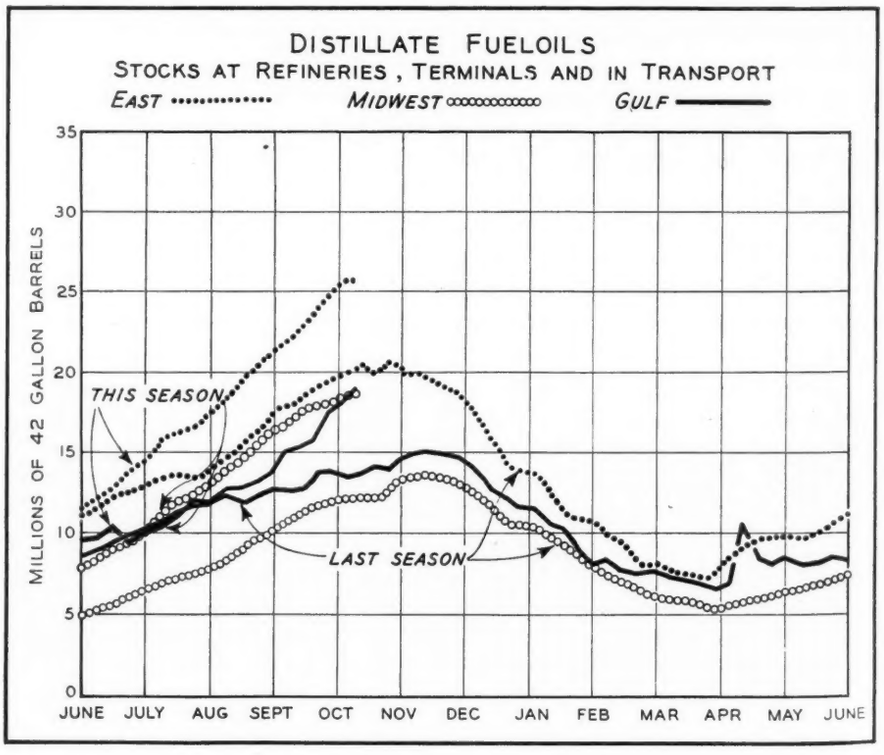
DISTILLATE FUELOIL stocks in the bulk-plants of fueloil distributors on October 1 were 66% of capacity, virtually the same as on the previous month and only 1% higher than a year ago. Apparently, this is near the top point that can be reached and it is doubtful if dealer stocks will rise any higher because of concern over price stability.

DEALER STOCKS
(Thousands of Barrels)

	No. 2 or 3 Distillates	*No. 1 Range, Kerosene*
East Coast		
10-1-48	9,607	2,667
10-1-47	9,885	1,012
Midwest		
10-1-48	3,072	2,107
10-1-47	2,639	1,211
East of Rockies		
10-1-48	12,679	4,774
10-1-47	12,524	2,223
Percent Change	+1.2	114.8

Distillate stocks at refineries, in primary storage or in transit on October 23, the latest available data, were 65,151,000 Bbls. in the area East of the Rockies, compared with 47,350,000 Bbls. for the corresponding week of the previous year, a rise of 17,801,000 Bbls., or a rise of 38%. In view of the probability that demand will not be up more than 15%, present high stocks make the outlook safe. At this time last year, distillate stocks were 9% lower than they had been in 1946, and the industry was facing a 25% greater demand.





Sell Farm Oilheating

When Gas Got Cheap in Lincoln, Swift Fuel Went Rural

by
Robert Gray

IMAGINATION IS WHERE you find it. By no means all of the oilheating industry's ingenuity is concentrated along the Atlantic Seaboard, just because that's where most of the burners have been installed. The Midwest and Far West have been turning up with stories of unusual activities, management methods that prove that everything isn't cut and dried after all. There was the Joe Collins story with about the best service plan and experience up to now. Then the Carl Jonswold story about fueloil deliveries to homes, using 4,500 gallon semi-trailers and cutting delivery expense a third. For the past year the five Far Western states have had a fueloil pricing system that should be in use everywhere—they base the price on the size of the customer's tank.

This is a story about some of the activities of the Swift Fuel Co., Lincoln, Nebraska. The company merits this recognition . . . in fact it's overdue, because Swift has done several unorthodox things in 22 oilheating years.

Originally a lumber and coal firm, Swift started selling fueloil and oilburners in 1926. The lumber and coal were subsequently dropped. Mr. S. S. Swift, who built the business, retired two years ago to Santa Barbara, Calif. A. B. Jennings, who had been with him for several years as general manager, became president, and a new man was brought in—Harvey G. Swenson—to become vice-president and treasurer and to be generally in charge of sales and finance. Swenson had been a radio news editor and broadcaster, which means that he's uninhibited and thus fits the Company thinking.

Nebraska is an agricultural state. True, it has one large city, Omaha, one small city, Lincoln, and a dozen large towns where living is definitely urban, but the well being of nearly everyone in the state is directly or indirectly tied to what happens on the farms. The state's industries are mostly meat packing, flour milling, sugar refining and the like.

It would have been expected that oilburner and fueloil men would have turned their sales thinking toward the farms years ago, but before the war farmers were very hard to sell, particularly in Nebraska. There had been seven years of dust storms and drought, and money was tight. Also when a man worked hard in the fields all summer, he didn't find it particularly backbreaking to shovel some coal into a few stoves in the winter.

In the fuel rationing office at Washington during the war one of the analysts came up with a count showing that 85% of all oilburners were operating in metropolitan centers of 50,000 or more population and only 15% were in smaller cities and towns or rural areas. Oilheating was definitely a city function—but it needn't be in future . . . in fact the trend to small towns is well started.

Gas Competition Starts

Then before the war oilheating competed fairly well with even the cheapest natural gas in the Midwest cities so the dealers had plenty of prospects to work on in town. When natural gas was 6¢ a therm and fueloil 7¢ a gallon there was not a great difference in fuel costs.

Natural gas came to Lincoln in 1934. Swift saw that it was cheaper than oil and knew that a lot of folks would think it better heat. He was convinced that a small price differential wouldn't carry much weight if he could keep people convinced that oilheating was as good as, or better than, gas heating. So he inaugurated universal burner service. Adding a half cent to his oil price he gave every customer burner service without extra charge. This was done to force all customers to have good burner service. Every job got a summer overhaul and occasional inspections as the men found idle time.

As a result, Swift was able to keep his business growing slowly but steadily up to the time of the war. He arrived at the point of having 1,500 residential customers, about half of the total number in Lincoln.

When the war ended, the favorable comparisons of oil with gas had ended, too. There had been no gas shortage or rationing during the war and many families had learned to like it. With fueloil prices climbing while gas costs remained stationary, Swift believed that selling burners in the city was going to be quite an undertaking. In the first release of wartime restrictions he could

Why You Can Sell Oilheating To Farms

1. **Farm assets have increased from 54 billion dollars in 1940 to 111 billion in 1948.**
2. **Of these 1948 assets, 20 billion are in liquid form . . . cash or bonds.**
3. **Net income per acre is now three times that of 1940.**
4. **Personal spending power of farm families averages 22% above other segments of the population.**
5. **People eat one-eighth more food per capita than they did in 1940.**
6. **Farms now have three million tractors, 15 million power implements, use twice as much gasoline as in 1941.**
7. **Fifty percent more farm homes have electricity today than when the war ended three years ago.**

have sold quite a lot, that was in late 1945 and 1946, but the burners couldn't be found in any numbers.

During that period an occasional farmer dropped in to ask about modern heating with oil. He had done well during the war years and now that his boy was home from the Pacific and married he'd like to turn the farm over to the young folks and settle in town. But the young folks wanted the place modern, and since he could afford it, why not?

Swift and Jennings saw the light. That was the answer to their frozen town volume, if they could get it rolling. Go rural, where gas wouldn't be

A. B. Jennings, *president, and* **Harvey G. Swenson,** *vice-president and treasurer of Swift Fuel. Jennings is an old-timer with the company; Swenson came in just a couple of years ago, from radio broadcasting work.*

competitive. In September the company completed its 200th farm oilheating installation since the war, and for this fall it's swamped.

Sitting sprawled in an easy chair in Jennings' office through the morning and driving with Swenson to numerous farms in the afternoon, to get the feel of the thing and to take photos to show that these are just ordinary farm homes, the detail of the Company's farm activities unfolded . . . not in logical sequence, but hit-or-miss, as conversations will.

Ninety percent of farm oilheating jobs require a complete heating plant; the sales, including simple duct work, run from $750 to $1,500, averaging $900. This year about 30% of the farm jobs are in new homes, but last year they were all in old homes. The modernizing fever that the young folks started has now spread in some instances to completely discarding the old for new.

More than half of the 200 jobs installed have been for farm homes where the old folks were retiring to town and the son's family taking over the home place. These men taking over are not necessarily youngsters. Some are middle aged, and their retiring parents quite elderly. In making the shift, it's a good time to arrange for nicer living conditions . . . providing some alert outfit like Swift's is around preaching the gospel.

Then quite a number of city families, prosperous through wartime activities, have bought farms just for a chance to get out occasionally and smell the good earth. They usually hire a specialist from the agricultural college to run the farm, and his college-bred family won't use coal shovels if they can help it.

There's still another source of farm oilheating business. Farms today are so fully mechanized that much larger acreage can be handled by one outfit. A complete set of machinery for handling the common grains can easily care for 400 acres. So in one way or another, by lease or sale, the farms are bunching up into fewer operating units. This usually leaves one or more idle farm houses in the shuffle. These farm houses can be sold with an acre or two to town workers who would prefer to live in the country and commute. But they need to be modernized.

Speaking of mechanical farming, the extent of this is almost inconceivable until you experience it. In a two weeks September drive through the Midwest, covering 4,500 miles, we saw nine horses working. There were three teams hauling wagons and three horses carrying riders. We saw not a single horse working in a field, although the corn and soy bean harvests were well under way.

Mechanization Nearly Complete

Tractors, sometimes large ones, were hauling the little 55 bushel farm wagons to town, giving the illusion of a full grown man pulling on a string a child's wheel toy. Rural America has gone to gasoline, all the way. It's only another step to take it to oilheating, wherever there is electricity.

Electrification of farms is leaping ahead. In the three years since the war ended the number of farms with electricity from "high lines" has increased 50%. With Government blessing and financing the next three years should see the present number doubled.

The Swift Co. installs oilheating jobs within a 50 mile radius of Lincoln, and it renders burner service within that radius. Oil customers, however, are limited to a 30 mile radius. All oil tanks on these jobs are 600 gallon or larger sizes. A few oil customers within 10 miles of the city are on automatic deliveries, but the bulk of farm users phone in when they need oil. They wait until their tank shows less than 100 gallons, so they can take a 500 gallon drop.

The farm homes average using 1,500 gallons a season, made in three drops. An extra cent is added to the oil price for rural customers—they currently pay 15¼¢ and only rarely are they disturbed about the fuel cost, because oil brings the only fully automatic heating they can have.

The rural customers get the summer clean and tune-up job without charge, the same as those in town, but they are charged extra for any additional service they need. On a no-heat call, Swift's service men will leave at once to go any distance to a farm, day or night.

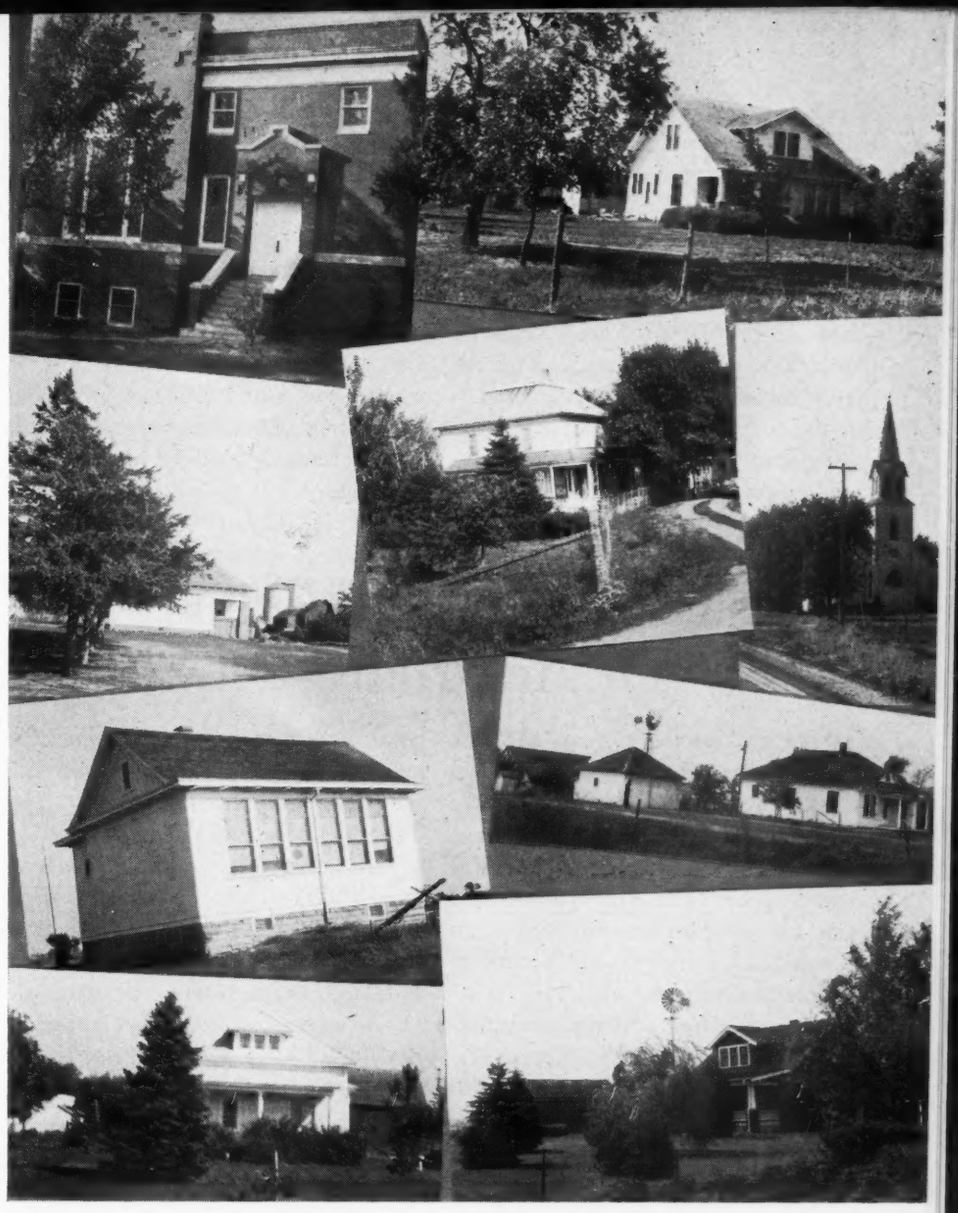
Used to Home Repairs

On the other hand, farmers need very little burner service. They fix nearly all of their own mechanized farm equipment. To a man who can repair and adjust a wheat combine, an oilburner presents few mysteries. An eye-opener on what farmers know about oilheating came when we visited in a farmyard with Paul Dickau, a few miles west of Seward. His own oilheating job was going fine and he showed it to everyone who would come down and look at it. But he thought we ought to stop down the road a couple of miles at another job that Swift had put in. This man had been complaining about his fuel costs last winter. "It may not be the fault of the equipment," he went on, "because I know he isn't using the right oil. He doesn't get it in Seward, but calls a small dealer over in Goehner, and that dealer only has No. 1 oil. With No. 1 he won't get as many Btu's to the gallon, he pays kerosene prices for it, and I'm quite sure it will give him a higher stack temperature." It's plain to see that Dickau wouldn't need many service men running out of Lincoln.

While mentioning prices, Swift regularly sells a cent above the major companies in Lincoln. In fact he sells a cent and a quarter over them, but allows the quarter cent as prompt payment discount. Then to keep as far as possible from any actually small drops he makes a flat additional charge of $1.50 for any deliveries under 200 gallons. It takes courage to play that safe in a market where gas is dirt cheap, but Jennings and Swenson maintain the philosophy that if you keep every job operating as near perfect as humanly possible, you don't have to be squeamish about asking a profit.

One of the farm selling secrets that the company learned early is that these prospects are inclined to be clannish, close-neighborly. They know far more about each other, living long distances apart, than do town people separated by only a few feet or blocks. When one or two farmers in a community install oilheating, dozens more will see the jobs and discuss them before three months are past, or more likely three weeks. Then the calls come in, "No hurry, but when you're out this way stop in and check over my house to see what it would take."

Country churches are a great help to burner selling. They don't have janitors. Someone, usually a member though occasionally the minister, must start the fires, and if it's midwinter they must baby them all through Saturday night. It's a mean chore. After Swift's men learned that churches are easy to sell, they also found that the farmers who got out of the chore of coal tending at the church were good prospects for burners in their homes.



Swift's farm *installations of oilheating are not country palaces or gentlemen's estates . . . they're ordinary rank-and-file middle class dwellings, well kept and clean because farmers today can afford to have them that way. Schools and churches get special attention in burner selling because a satisfactory installation means that quite a group of neighboring farmers are already half sold. The frame church illustrated with the tall spire is a German Lutheran, some 35 miles out of Lincoln. The oilheating sale to the church brought eventually 18 additional installations to members.*

The classic example was a German Lutheran church located about midway on a nine mile gravel road running north out of Beaver Crossing. Jennings had a phone call to come out and meet with the Board to tell them about oilheating for the church—to be there at two o'clock. He got home that night at ten o'clock with the order for the church and tentative orders from six of the seven Board members, subject to final prices on checking their homes.

That nine mile stretch of road has 20 farm homes—all but two have been sold as a result of the church job—with the farmers actually selling each other in most instances. All told, the Company has outfitted 20 country churches . . . one each Methodist, Presbyterian and Roman Catholic, and the balance all Lutheran. The Catholic parish, however, outfitted three large buildings, with the oilheating sales totalling $19,000.

Most of these country churches do not have running water in the building, so the heat is completely off until the burner is turned on, one to three hours before services. If they do have a water system in the building, Jennings plans a special hookup to heat only the kitchen and rest rooms to prevent freezing during the week.

Country schools work about as well as churches. The school board members, after they buy for the building, often want oilheating at home, and thus another farm community is started as live prospects. In driving along, Swenson would indicate with an arm motion a section of country where there were no jobs sold as yet, no oilheating in the area, but that was dead ripe for promotion if they could ever find time.

Farmers sometimes buy cooling systems along with their heating jobs. Jennings has engineered and installed six rather recently. They use well water of about 55° temperature, pump it through

a coil, put a blower behind it and circulate the air through the regular duct system. The cost is $400 for the average house and considerable temperature and humidity reduction are achieved.

The large majority of farm jobs have been warm air, only a few with boilers. However, the Company has sold several boiler jobs to motor courts along the highways. Steam lines are run underground to radiators in the cabins, and year-round hot water is provided.

This story of the activities of the Swift organization seems very simple, looking back. It did require quite a lot of imagination to see the possibilities and get started on farm work. The surprising thing about it all is that so few oilheating dealers in the country have seriously gone after farm jobs, even though they couldn't fail to see the prosperity all around them. From here out rural work is certain to become an increasing part of total oilheating, with better than average rewards for those who first give it a push.

Officials Assure Public Of Adequate Oil Supply

A WAVE of assurances of an adequate oil supply has come from the petroleum industry in the last month such as the oilheating industry and the public have not heard in a long time. Oil industry experts appear to have reappraised their facts and come to the conclusion that no stringency is likely in any petroleum product in the future.

Speaking before 300 representatives of Milwaukee business as they met to observe "Oil Progress day," Dr. Robert E. Wilson, chairman of the board of Standard Oil (Ind.) said there is little danger of a repetition this winter of the fueloil crisis that made headlines last year.

Thanks to progress in building equipment and stepping up the efficiency of production and transportation, the speaker said, the oil companies are more than meeting a 7 per cent increase in the demand for their products this year—the greatest demand they have ever known.

"We can't come out with the unqualified statement that we have licked the supply problem," Dr. Wilson said. "An unusually severe winter could give us some trouble. Continuation of the West Coast strike, which is something of a threat to civilian and military supplies, could unfavorably affect the trend. But I feel we have again shown what the free enterprise of our industry can do to meet the staggering increases and shifts in demand to which it has been repeatedly subjected."

A statement of October 4, from the Oil Industry Information Committee pointed out that the heavy gasoline consuming season was nearly at a close, and companies are preparing to meet a record demand for fueloils this winter.

"Oil companies everywhere have broken all production records to meet the unparalleled demand for petroleum products this year, and, barring unforeseen circumstances, will continue to do so this winter," said the Committee.

Domestic fueloil demands this year are estimated at more than double what they were before the war and 20 per cent higher than they were last year, it reported, citing a recent nationwide survey. This means that we are consuming fueloil at an average rate of 41 million gallons every day of the year, the Committee said, adding that our consumption of all petroleum products averages close to 250 million gallons a day.

The domestic demand for kerosene, the survey showed, also has increased by almost 70 per cent since 1941, to a consumption averaging 13.5 million gallons daily. A large part of this demand is accounted for by space heaters of various kinds, some used for central heating and others for single room heating. Their number has grown from two and a quarter million in use before the war to more than five million today. Each heater uses an average of 650 gallons of kerosene or No. 1 distillate fueloil a year.

Transportation facilities, which proved to be a temporary bottleneck during the abnormally cold weather last winter, are constantly being improved and expanded, the Committee reported, saying that the industry is hampered in its expansion program by shortages of materials, especially steel.

Gloomy prognostications by self-styled "experts" in the art of interpreting figures, to the effect that western oil supplies are dwindling and the end is in sight for the predictable future, were blasted by Marion E. Dice, General Petroleum's top economist, in a recent address at Los Angeles.

"There is no real shortage of crude oil here," Dice explained. "Stories that in a few short years we will be out of oil apparently come from conflicting conclusions regarding published figures on crude oil reserves.

"Statistics which some writers quote to show that discoveries are lagging far behind production are fragmentary figures which result from technical bookkeeping methods established by the industry's committee on reserves. There's nothing wrong with the figures. We need only to understand them."

Mr. Dice points out, if discoveries continue to be made at a rate of 10 to 15 per cent of current production and are followed by the normal extensions and revisions, reserves will continue to be kept in balance.

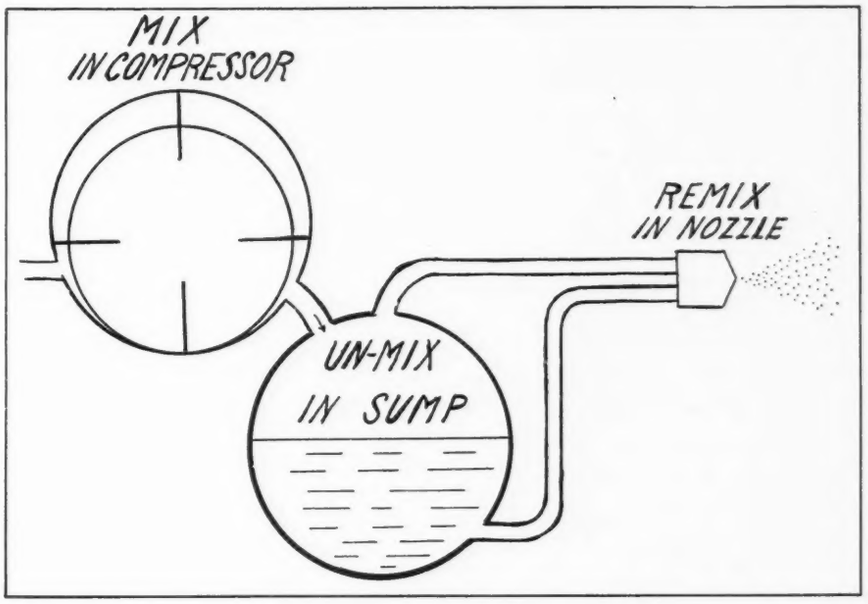
Dr. Gustav Egloff, research director for Universal Oil Products Co., Chicago, told the Independent Petroleum Association of America at San Antonio that the country has oil for the next 100 years, " and then the question will be only which reserves to use next." He estimated that oil production could be brought to 7,000,000 barrels a day within a few years from the present 5,800,000 barrels, and that a billion acres of land in the country could produce oil, compared with 4,500,000 acres thus far drilled.

From a longer range point of view the public was assured of future oil by Professor Werner Bergmann of Yale University who told a Boston meeting of the American Chemical Society that petroleum for future eons probably is being manufactured drop by drop by the tiny animals that form coral reefs. Stony coral contains minute amounts of a wax-like substance which becomes trapped in the ever-growing reef. A relatively minor geological change would disintegrate the reef and a slight rise in temperature will liquefy the wax and bring it together.

Low Pressure Burners

1. Basic Principles of Oil and Air Delivery in Various Types

by
Fred Feigenbaum* and
John E. Dignam*



Low pressure *cycle type operation.*

A RADIO COMIC recently was giving advice to a young Maharajah who was running out of rubies. "When your Rolls Royce stops running because it has no petrol," he said, "don't throw it away. Just put in some more gas. It can be used again!"

This sort of advice is sometimes given to owners of low pressure oilburners, but in reverse. Without confessing that he does not understand the burner well enough to make it run, a certain type of service man will say, "Why don't you get rid of this thing and put in something standard?" The inference is that there is something inferior, or obsolete, about the low pressure burner, and that the owner would be improving his heating plant by installing "something standard."

Not being as rich, or as foolish as most of the Maharajahs who get into the papers, the owner of the low pressure burner usually does not take this advice. He may suffer some delay or inconvenience, but he finds a service man who understands the machine and probably has it fixed for a few dollars.

In these days of varying fuel characteristics it should be made at least a misdemeanor to suggest that this type of burner be discarded. Its device for breaking up the oil, the air friction nozzle, is almost impervious to the changes in viscosity of present day fuels. With practically all domestic oils the low pressure burner will go on producing the same high quality spray, without requiring adjustment during the heating season.

The fact that the average service man is not well enough acquainted with the operating principles of the low pressure burner is pardonable. Information about them does not circulate freely. There are such things as manufacturers' handbooks, but these are distributed for dealer use only, and are not often found outside of shops which service low pressure jobs. The men who work in these shops feel that they operate in a highly specialized field, and do not care to share the knowledge they have accumulated. Not much reaches the outsider through this "iron curtain."

He is also up against the fact that there is no standardization between makes, such as exists between high pressure burners. He becomes familiar with the principles and problems of the latter often by mere continued exposure to them. In the course of a week's work he sees only a few low pressure burners, compared to the dozens of others he works on.

If he has the curiosity, and the courage, to take a low pressure burner apart, he finds himself confronted with a discouraging maze of unknown quantities; compressor, float, special pumps, valves, fuel handling systems. He is unable to take time out from his daily work to reconstruct their underlying operating principles, especially without guidance of some sort.

It is the purpose of these articles to demonstrate that these complex-looking mechanisms, while not exactly simple, can be understood by any man capable of servicing any other type of burner. It is not claimed that he will become a low pressure expert, at least not until he has worked on several dozen problems with them, but he should acquire a deeper understanding of the whole field in which he works.

The material presented here will be mainly principles of operation. The drawings will be diagrammatic, and generally will not present the various assemblies as they are actually built, but simply illustrate the principles involved.

In order to understand the reasons for the construction of the other parts of the low pressure burner the first thing to be considered is the spraying device, the nozzle. This is the thing for which all the other parts were built, the reason for their existence. No matter in what other ways these burners may vary, all of them apply a common principle to the division of the fuel into particles, the *air friction principle*. This principle has been

*Automatic Heating Department, YMCA Trade and Technical School, New York.

known and used for years, in many applications, from boudoir atomizers to paint spray guns.

Everybody has seen it used in insect sprayers, in which a hand pump is operated to force air rapidly across a liquid orifice, converting the liquid into a fine mist. Some early low pressure oilburners used this identical method to prepare fuel for burning, employing a piston type compressor to maintain a constant flow of air across an open oil orifice. Some of these burners are in operation, and working well.

The next development in nozzles was the closed nozzle, in which the meeting of the oil and air took place inside a hollow shell, or before it, the air stream breaking the oil across a common orifice. This method was more economical in its use of air and produced a more effective spray. It is used in all modern low pressure burners.

Although we employ fairly low pressures with these nozzles it is not quite correct to call them low pressure nozzles. The principle is used at pressures of 100 lbs. and more in certain marine and industrial burners. They would be more properly called air friction nozzles. The force used to break up the oil is friction, not pressure.

As effective as the principle is in dividing the oil into exceedingly fine particles, it was discovered very early in its use in domestic burners that a serious fault existed in the manner in which the fuel was sprayed. There was a great tendency of the two elements passing through to interfere with each other, when the two were delivered to the nozzle through the same tube.

The result of this interference was a panting, pulsating flame, caused by the alternate richness and leanness of the sprayed mixture. When it is realized that the entire fire mass burning at any instant in the firebox is the product of only a tiny quantity of oil emitted by the nozzle, it is not difficult to understand that even the smallest irregularity in the delivery can upset the process and cause disagreeable noise. Therefore one of the most important requirements in any domestic oilburner is that it deliver its spray smoothly, in a constant relation to the air supply. There must be no interruption of any kind. High pressure burners had no such problem, and that may be one of the reasons for the good start they obtained in the industry.

A lot of thinking went into the search for a method to eliminate these unwanted variations in the low pressure burner flame. For the commendable reason of wanting to keep the burner design simple some engineers advocated the further development of the already accepted *single delivery* principle. In this system, both the oil and the air are pumped by the same mechanism, a rotary compressor, and the resulting mixture is delivered to the nozzle through a single pipe.

Other designers looked in the direction of *Parallel Delivery*. These people believed that the best means of producing a smooth spray was to introduce the oil into the air stream at the extreme end of its travel, in the nozzle itself. In this way the uninterrupted oil would meet the fast moving air at a point where the air would have the least opportunity to alter its delivery rate.

The parallel delivery adherents were themselves divided into two important groups. One group advocated the complete separation of the air and oil throughout the entire burner. The air compressor handled nothing but air, and the oil pump handled only oil. Meeting was delayed until both reached the nozzle.

The other believers in parallel delivery were already in the single delivery business. They already had the oil and air in the compressor and were reluctant to depart from that design. They found that it was possible to make a small addition to their burners in order to accomplish parallel delivery. They adopted the *sump*, or separation chamber, into which the mixed oil and air from the compressor were discharged. After separation the air travelled to the nozzle through one tube, the oil being fed to the nozzle through another.

Single Delivery. The Winkler

Before examining the principles of the more complex parallel delivery burners it would be well to look at a modern example of the single delivery type, the Winkler. This one is capable of delivering a smooth spray even at the low rate of .75 gph.

Externally the burner is of conventional design. The motor drives the pumping units directly, across the fan housing. The oil and air pumps are contained in a single unit.

The fuel pump is strictly a metering device. It is driven at reduced speed through a worm gear from the compressor shaft. The manufacturer recommends that the fuel tank be above the pump level so that it can be supplied by gravity. The purpose of using a metering pump instead of a simplier regulating device such as an orifice, is to prevent changes in viscosity from affecting the oil rate of the burner.

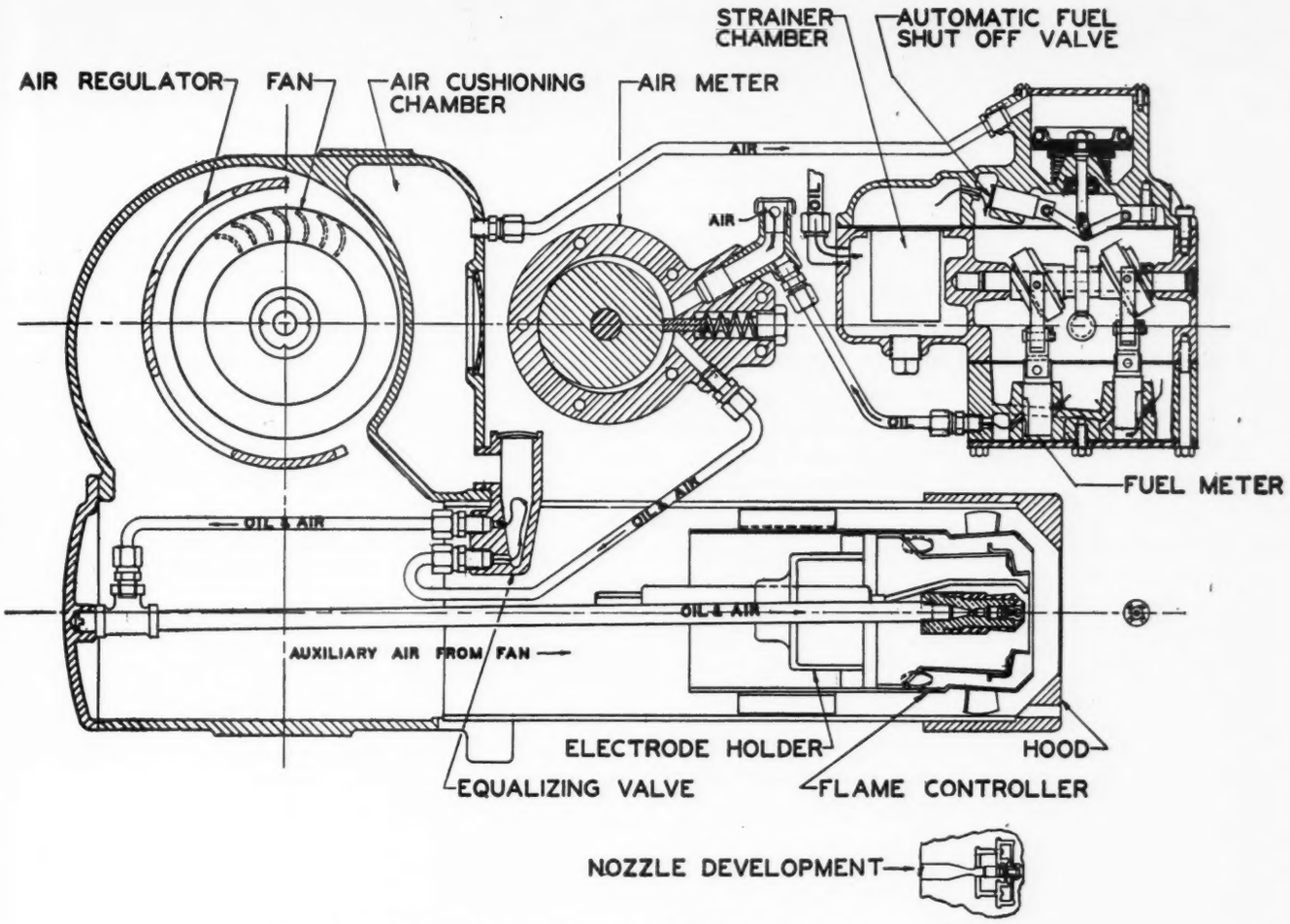
When the burner is operating the compressor is developing about 3½ lbs. pressure. This force is exerted against a piston in the upper fuel pump housing, causing it to move downward against a compression spring. This movement operates a knee-type linkage, opening the fuel inlet valve to the pump.

The fuel is then free to travel into the metering pump, which moves it through tubing to a Y-fitting where it meets the air being drawn into the compressor.

The mixture of oil and air is pressurized and delivered to the equalizing valve, a chamber in which it is given a 180 degree turn-around at high speed in close quarters. This unit converts the mixture into a homogenous emulsion, reducing the tendency of the oil settling out on the way to the nozzle.

Just above the equalizing valve is a large air cushioning chamber, cast against the scroll of the fan housing. This chamber absorbs any irregularities created by the compressor impulses, and helps maintain the smooth flow of the mixture to the nozzle. It is from this chamber that the pressure to the inlet valve mechanism is supplied.

From the equalizing valve the air-oil emulsion is delivered at right angles into the tube leading to the nozzle. At the narrow entrance to the nozzle the movement of the mixture is accelerated. The travel of the emulsion through the nozzle is broken sharply by several right angle turns, reversing any tendency toward separation or slugging. It is then sent slantwise in four separate streams through tubes drilled into the whirl chamber just behind the nozzle orifice. This causes the mixture to spin rapidly as it crosses the orifice, and the spray enters the combustion chamber in a cone-shaped pattern.



Diagrammatic sketch *of operation of the Winkler low pressure oilburner.*

At the entrance to the combustion chamber the mixture meets the fan air, which has been whirled through a modern air handling device.

The Winkler metering pump is a slow speed piston type device. This type of pump is capable of *Positive Displacement,* making it possible to handle an exact quantity of oil regardless of viscosity changes. This is impossible with orifice regulation used in most burners of all types.

The pistons are moved in opposite directions by an eccentric shaft, so that when one is drawing in oil on its intake stroke the other is discharging its oil to the compressor. Besides their up and down stroke the pistons are given an oscillating, or sidewise movement, causing the inlet and outlet ports to be uncovered in proper order. This arrangement makes valves unnecessary in the handling of the fuel through the unit.

There is no means of adjusting the oil rate through the metering pump. If it is necessary to change the GPH of the burner, the pistons and piston housing are removed and another size installed. The capacity of each unit is stamped on the side of the housing. The ratings read in *quarts* per hour. Replacement is not difficult. Six screws are removed from the lower part of the housing and the discharge tubing is disconnected. The assembly comes out as a unit.

The Winkler compressor is worthy of note because of its difference from the air pumps used in other low pressure burners. An eccentric rotor, in reality a large cam, rotates in a tight circular housing of larger diameter, always touching the inner circumference at some point. Pressed against the cam at all times is a sliding vane, or divider block. The movement of the cam in the housing produces a crescent shaped pumping chamber. This chamber, in widening at the intake side of the vane, draws air and oil through the inlet port. The rotation of the cam moves the pumping chamber around to the discharge side, and the mixture is ejected as the crescent becomes smaller. As with other types of rotary compressors the fueloil in the mixture is used for lubrication, and for sealing the pressures existing between the inlet and the discharge sides.

Cycle Type Burners

At the point where the design of low pressure burners branched off in three directions, the burners employing sump-separation gained a lot of ground in public acceptance, especially in small domestic installations. There are more existing burners using this method than any other low pressure type. And these are the burners which confuse the working service man most, because, among other things, he cannot see the reason for the separation of the oil and air which have already been brought together in the compressor.

Because of this confusion much of the space in these articles will be devoted to this type of burner. Although different makes vary greatly in many ways, they employ a common principle, a *basic cycle of operation.* In this basic cycle parallel delivery is obtained by:

1. *Mixing* the air and oil while bringing them through the pumping process.

2. *Unmixing* them in a separating chamber or *sump*.

3. *Remixing* them in the nozzle.

Sump separation provided smooth oil travel and uninterrupted spray without requiring too much redesign of an already existing burner type. The sump and the separate oil tube were added experimentally, and proved so successful that the burner became a new type. The basic cycle became an accepted principle.

Parts Used In Cycle Type Burners

Burners employing the basic cycle contain three indispensable parts; a *Rotary Compressor,* which pumps the air and oil, a *Sump,* or separating chamber, and a *Nozzle*. All the other parts found in these burners are control parts, influencing the action of the basic three.

The Rotary Compressor

The rotary compressor is one of several devices which have become known as continuous process pumps. It is especially adaptable to the domestic low pressure burner for a number of reasons, the chief ones being the smooth delivery of air, and quiet operation. Early burners used piston type compressors. These are very efficient machines, but complex, and they become noisy with wear.

Most of the rotary compressors found in low pressure burners are hardly more complicated than a revolving door. The main moving part is the rotor, a circular block of steel, which revolves in a larger circular housing. Spaced around the circumference of the rotor are a set of blades or vanes, which are free to slide in and out of deep slots cut into the rotor.

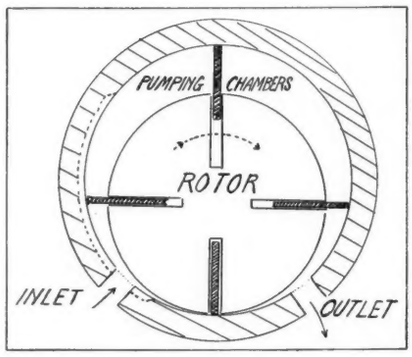
The departure from the revolving door idea is the fact that the rotor revolves in a circle eccentric to the housing. The vanes are thrown out by centrifugal force into the crescent formed by the eccentricity of the rotor to the housing. Their outside edges follow the contour of the housing.

As each vane passes the vanishing point of the crescent, where the housing and the rotor touch, it begins to move outward. A chamber is formed between it and the vanishing point. The vacuum created by the forming of this chamber causes air to be drawn in through the air inlet port.

The chamber continues to move out into the crescent, becoming larger, and drawing in more air. This is the equivalent of the suction stroke of the piston-type compressor.

As the chamber moves past the midpoint of the crescent it begins to get smaller. The air within it begins to be compressed. The movement continues to the vanishing point of the crescent, compressing the air more and more, and finally discharging it through the outlet port.

The whole process takes place in a continuous rotary movement. The vanes



Rotary pump, *illustrating how vanes move out of slots when the rotor turns and form pumping chambers.*

do the work of both pistons and valves. Because the compressor is direct-coupled to the motor shaft there are several thousand of these smooth compressing actions every minute, instead of several hundred rough impulses of a piston type compressor.

Whether or not the fueloil is pumped from the tank by the rotary compressor, it enters the pumping chambers at some point in the cycle. The oil acts as a lubricant for the moving parts, this fact being one of the reasons the designers of cycle-type burners hesitated to discard its oil handling function. Also the viscosity of the oil acts to seal to the constantly changing pressures in the chambers from each other. The fresh supply of lubricant keeps wear reduced to a minimum makes it possible for the compressor to run for years without requiring new vanes or other service. All the internal clearances are very small, less than a thousandth of an inch when the unit is new. Even after years of wear they are still so small that the compressor is able to deliver air at effective pressures.

The Sump

If it were possible to catch the mixture as it leaves the compressor and examine it, you would find the reason for the effectiveness of the sump as a separator. The mixture would be emulsified but would have little inclination to stay that way. Complete separation takes place in a few cubic inches, and the air is free to travel to the nozzle through a tube from the upper part of the sump.

The oil falls to the bottom, where time is given it to release any air bubbles it might contain. The same pressure which drives the air to the nozzle moves the oil at regulated speed to the same point.

Just providing the separating chamber is only part of the solution of the parallel delivery problem. To get the oil out of the sump to the nozzle in an unbroken column it is necessary to maintain the oil level above the oil outlet of the sump. If the level were permitted to get too low or too high there would again be a mixture in one of the nozzle tubes, neutralizing the effect of the sump.

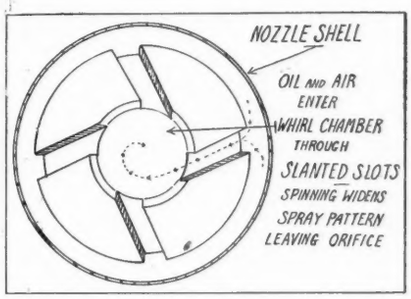
Liquid level control is ordinarily no problem. It is generally accomplished by a float-operated valve, such as the constant level valve used with rotary burners. But in the sump of a low pressure burner the function of the float is not so simple. The oil coming in is mixed with the air handled by the compressor. To shut off the oil would be to shut off the air also, cutting off the atomizing force at the nozzle.

This is one place where the designers exercised their ingenuity, to the confusion of the service man. They had to design an operating device to control the liquid level in relation to another control part, the oil metering device.

If this metering device was placed ahead of the compressor the float valve would have to control the flow of oil to the nozzle. The Williams Oil-O-Matic, for example, employs a metering pump which supplies the fuel into the compressor. Its float therefore acts like a constant level in reverse, feeding oil out of the sump, to the nozzle.

In some other burners the oil regu-

lator is after the sump. The float valve in a burner of this type must work on the oil being drawn into the compressor. The really ingenious methods are found in the burners which must do this, because it is a more complex job. In the General Electric the float causes air to be discharged into the suction line. One of the Hart burners discharges both air and oil to the suction side.



So when the service man looks at a sump he should consider it as something more than a tank for the separation of oil and air. It is a vital mechanism which must do a certain job in relation to other design factors in the burner.

The takeoff to the nozzle is usually uphill, making a special cutoff valve unnecessary in the nozzle line. The air pressure in the sump is the force which moves the oil up its tube. The loss of pressure by the fast moving air provides the small differential at the nozzle necessary to raise the oil to that level.

The Nozzle

In the modern burner using parallel delivery the air and oil meet just inside the nozzle body, the oil moving at regulated speed, while the air movement is very rapid. As the two cross the sharp edged orifice the friction generated causes the oil to be broken into a fog of fine particles.

Most low pressure burners contain some means of spinning the oil and air mixture inside its nozzle shell, before ejecting them from the orifice. This spinning takes place at high speed, for the purpose of generating centrifugal force just outside the orifice. This force applied to the mixture causes it to fly apart in a cone shaped spray pattern, adaptable to the types of fireboxes generally used.

The means of producing the spinning action inside the nozzle is usually a slotted deflector, similar to that used in the high pressure nozzle. The slots are much larger because they must carry both air and oil. They are cut slantwise, and fit snugly against the inside front wall of the nozzle shell, so that they are actually tubes guiding the mixture into the central whirl chamber, just ahead of the orifice. It is the slantwise entrance of the mixture into the whirl chamber which causes the spinning, and the resulting centrifugal action.

OHI Directors' Meeting Highlights Industry Recovery

AT THE QUARTERLY Directors' meeting of the Oil Heat Institute in Chicago on October 20, the featured discussion was the improvement of the oilheating industry's position and outlook today compared with what it was at the time of the annual meeting last April, also in Chicago.

Not only was it acknowledged that oilheating troubles have largely vanished, but significant credit was given the oil industry for having exceeded its own anticipations in the rapid rate of production increases. The topic of oil supply was virtually buried by the directors, but the Institute will nonetheless conduct an all-out campaign for economy in oilburning, because of the very high prices of fueloil today compared with other fuels.

It is expected that in another two or three years gas will be back in ample supply for home heating expansion, and that meanwhile the oilheating segment must cement consumer relations through efficiency education.

The Pratt report (National Security Resources Board) was briefly discussed and referred to the Fuel Oil Supply Committee to watch developments. The consensus, however, was that Pratt's recommendations that were unfavorable to oilheating would be hard to sell to either the progressive segment of the oil industry or to the oilheating public in peacetime.

The Publicity and Legislative Committee, headed by W. A. Matheson, and the industry's Public Relations Counsel, Lon Casler, were highly commended for their effective work of the past six months in getting improved press emphasis and in gaining recognition for OHI and its purposes at the major oil company level.

Numerous recent examples of feature articles favorable to oilheating in leading publications, such as the *New York Times, Wall Street Journal, Business Week, Newsweek, Philadelphia Inquirer,* and others, directly sponsored by the Committee were contrasted with the unfavorable press of last Spring.

Managing Director Jack Hess reported that industry sales have turned up since the latter part of July and improvement had continued. "The rate of sales on power driven equipment in the first six months of this year, if continued and adjusted seasonally, should have given us a year-end result quite a little short of the goal of 500,000 domestic units which was the accepted industry goal at the year's beginning," he said. "In July only 31,000 shipments were reported to Commerce, but that was a gain on preceding months. There is good reason to expect a final report of 50,000 shipments in August and that figure will show a worthwhile increase for September. There is hope now that we may achieve our goal for the year and if we do, it will be a result of continuing better news releases and more optimistic comment in connection with fuels for the heating season which is now under way."

Directors voted:

(1) To allow Jack Hess to enlarge reporting forms for manufacturers, sending more detail to Ernst & Ernst on their monthly shipments.

(2) To sponsor an economy program (to save fuel).

(3) To refer Pratt's report to the Fuel Oil Supply Committee to watch developments; Carl Jonswold is chairman of this Committee.

(4) To give the Engineering Com-

(*Continued on page 124*)

Teaching Control Service

Unique Panel Board Aids Student Electrical Training

by
Maurice Clayman*

NO PART OF THE usual oilburner installation is less thoroughly understood by the average serviceman than the control system. He can clean a nozzle, wash a strainer, or regulate pump pressure, but when the control system gets temperamental too often he has to call for help.

Our business at the Bok Vocational School is training students in the installation and service of electrical circuits, and among them automatic heating controls. We have found—as others probably have before us—that lectures and diagrams cannot go all the way in making a competent control serviceman. Before he is ready for the field he must have had first-hand experience with controls. He must have handled and adjusted them, watched their operation and studied their inner workings.

Since it is expensive, and sometimes dangerous, to turn students loose on a "live" heating plant, we have constructed a substitute which allows us to create all the conditions encountered in the field without the possibilities of accident. This is a board on which the limit control, primary control and thermostat all can be heated or cooled at will to simulate field conditions, and a panel board to control these operations and signal conditions in each part of the system.

Detail of Board

Looking at the face of the control board at the bottom, we have two 30 A fused safety switches. The one on the left is the power for the resisters or heating coils on each control. The controls are operated on A. C. current. The safety switch on the right is the feed for fans or the "cooling off" apparatus for each control. This side is operated on D. C. current (D. C. fans were available at the time of construction of the board).

On the top of the control board are three outlets. Reading from left to right: Pilot light, A. C. current; centre, switch for oilburner controls; right, pilot light for D. C. current. On the left side of board, we have three electrolier switches, and alongside of these switches we have three corresponding pilot lights to each switch, which shows at what position we are on in each particular switch. The top electrolier switch controls the amount of heat we can put on and around the helix of the Protectorelay.

On the first throw of the switch, or the least amount of heat we can use on the master control, two coils of resistors of 250 watts apiece go on (about 400° F. of heat), with this the top light of the first set of corresponding pilot lights go on. (The heating coils are mounted in a circle around the helix of the Protectorelay behind the board, and since we are in front of the board, just by looking at the pilot lights we can tell just how much heat we have on this control.) When the switch is tripped for the second position, the second light goes on, and when the switch is tripped for the last position of being "on," the bottom light goes on.

Lights Show Switch Position

In a toggle electrolier switch, there is no way of telling whether you are on the first, second, or third position, so with the use of pilot lights we know at all times the position of the switches. This is very important, particularly in the heat that is to be placed around the Protectorelay. On the start up of the burner, the hot gases from the flames that go up the stack hover around 400 to 500° F., and we must keep just two of the resistors on, otherwise with too much heat going up the stack, the burner would go off on safety.

The second, or middle, electrolier switch and set of pilot lights are for the limit control. In this case we used a surface aquastat. A hole was cut in the board holding the controls and placed in position so that the surface of the bi-metal is strapped to a piece of copper pipe, inside of which lies the heating coil. The heat of this coil is transmitted to the copper pipe, and from there onto the bi-metal of the surface aquastat.

The bottom electrolier switch and set of pilot lights operate the three coils of 300 Ohms each underneath the thermostat. One coil goes on with the first throw of the switch, two coils go on with the electrolier switch in the next position, and the three coils are on, when the electrolier switch is in number three position.

On the right hand side of the control board we have three single pole switches and three corresponding pilot lights for each control. The top controls three speeds of the fan on the Protectorelay, the middle set of switches and lights are for controlling the fan on the surface aquastat, and the bottom set of single pole switches and pilot lights are for cooling off the thermostat.

Motor and Ignition Marked

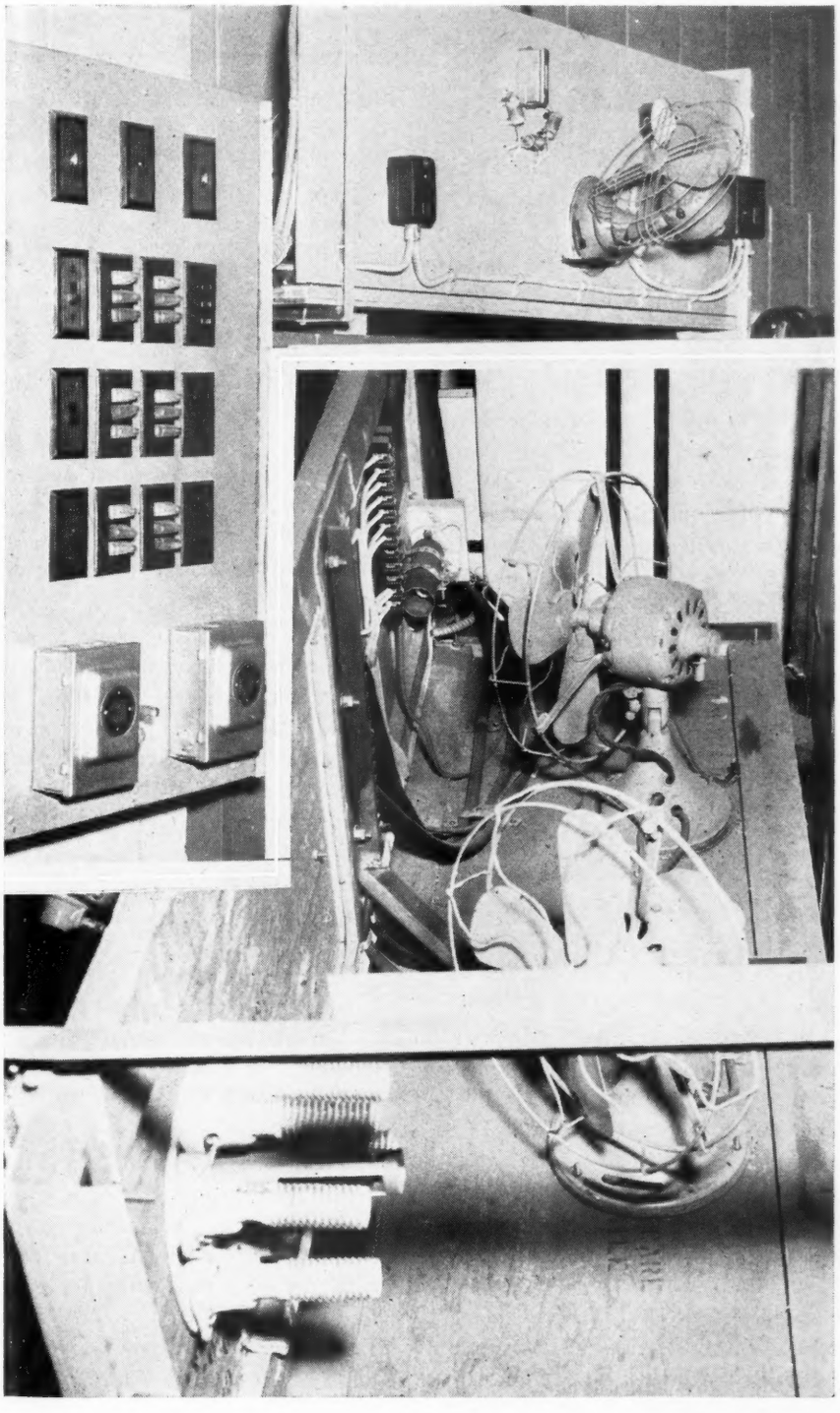
For the operation of the "get-up," let me say that the two lights you see near the Protectorelay designate: The top one, ignition; the bottom, the burner motor. (I would like to have used a transformer and regular ignition, but we use benzol in thinning synthetic enamels and an open spark with almost 10,000 volts behind it could blow the place up if it came in contact with the fumes.)

With the power on and a call for heat from the thermostat, the ignition and burner go on; that is the Protectorelay is actuated and then both lights go on. The fans are all off. Since the hot gas from the flame of the fire goes up the stack, we throw the top electrolier switch into the first position, giving us a condition around the helix, just as if it were set up in a "real job." The heat around

*Bok Vocational School, Philadelphia.

the helix breaks the cold contacts, and the ignition or top light goes off, leaving the fire to sustain itself and set the burner in a normal operating position.

The ignition stays on for ninety seconds, a factory setting, before it shuts down. From now on the controls operate automatically, but by the use of the switches on the panel board we are able to set up whatever condition we want to exist. For instance, if we want to satisfy the thermostat, we manipulate the electrolier switch controlling the coils underneath the thermostat. When the temperature of the area around the thermostat reaches the setting of the control, the burner will shut down and will not start up again until the differential is reached by the thermostat. We speed this action up by the use of fans. The action on the surface aquastat is handled the same way.



Training panel *(top left) shows by a system of lights what is taking place in the control hook-up at the right. Thermostat in the center of the board (top right), is heated by resistance coils or cooled by the fan as conditions demand. Lights concealed by the fan show when the motor and ignition circuit is energized. Below is the back of the control board showing the heaters and fan in the foreground that actuate the primary control, and the limit control in the background.*

Hand Control of Heat

When a control reaches its setting, be it the thermostat or aquastat, and the burner goes off, the hot gas no longer exists in the stack so we turn off the heat around the helix and allow the hot contact to break and the cold contacts to make, so the control will be in a position to operate on the next start up of the burner. This action can be speeded up by the use of the fan on the helix. We can produce a flame failure, an ignition failure, power failure, a heavy draft; as a matter of fact, we can produce any condition on our board that can possibly happen to a burner in a regular setup.

We already have plans for adding to this layout, a summer-winter and a zone controlled circuit. Also with the use of relays we can do away with some of the switches on the operating panel. This work is awaiting the arrival of the necessary equipment.

Phillips Crude Increase Not Followed By Majors

AN ADVANCE of 35 cents per barrel in the price it pays for all grades of crude oil was announced by Phillips Petroleum Co. on September 28. Though several small refiners followed Phillips in the advance, major oil companies did not, and issued statements explaining that they did not want to increase the price of products. The increase applied to crude purchased in the Mid Continent field, Texas and Louisiana.

Such companies as Standard Oil (N. J.), Socony-Vacuum, Shell, Standard Oil (Ind.), and Texas Co. resisted the increase in crude price, explaining that it would fall most heavily on kerosene and distillate heating oils. It was indicated that the recent slackening in the rate of increase in demand and the demonstrated ability of the industry to meet all needs are reasons why the increase is not justified.

Pratt Report To NSRB Cracks At Oilheating

AN OIL POLICY REPORT recently compiled by Wallace Pratt, former geologist for the Standard Oil Co. (N.J.), for the National Security Resources Board takes the position that the burning of oil for fuel is wasteful when other fuels are available. The report is the work of Pratt personally and not of the board as a whole. It is being held confidential primarily because some members of the board do not agree with its conclusions and hence do not wish to give it the blessing that would come with publication.

On September 18 Petty's Oil Letter of Washington disclosed some of the basic thinking in the report, which has been followed by other general industry publicity.

The National Security Resources Board was set up by Congress at the time the Army-Navy Merger Act was passed. It is composed of civilians but they head up under the joint chiefs of staff. The purpose of the board is to study national resources as related to military security and make recommendations to the country's armed services.

Pratt took the position that when the last war started we had a cushion of around a million barrels a day of unused crude production capacity and that because of that we were able to get sufficient oil supplies to fight a war without seriously disturbing our domestic activities. That cushion, he feels, no longer exists because of the fast mounting civilian demands since the war ended. He urges that it be replaced by curtailing what he considers non-essential uses of petroleum, in which he includes oilheating. In a summary of the report, Petty's Oil Letter includes this paragraph:

"Oil prices should be kept high enough to stimulate exploration and development in this country by independent producers. Such high prices would also discourage use of oil where coal or natural gas could be utilized instead. Burning of residual fuel (which should be cracked) and distillates (which could be used more effectively in diesel engines) when substitute fuels are available is wasteful and should be stopped."

There was a lot more to the report, including optimistic estimates on long range oil supply, but the injection of the thought that oilheating is wasteful should not be allowed to pass without challenge.

The accompanying article is another example of why the oilheating industry should retain professional public relations counsel on a full-time basis.

In common with numerous other scientists of the old school, Pratt views efficiency as the only goal of human progress . . . never mind public comfort and convenience; ignore improvement of living standards. The late Henry Ford once demonstrated that so far as pure science is concerned man can live well by limiting his eating to taking a few pills a day—they could contain all necessary elements for health and growth. Henry wasn't particularly advocating that anyone do it, because he knew that no one would be content to give up the joys of appetite, taste and friendly conversation that accompany the normal meal.

Nor is the oilheating public willing to go back to the drudgery and filth of coal handling, whatever its form, regardless of how many scientists might think it efficient. Fortunately the few men in the oil industry who share Pratt's views on this point are largely those who "knew Rockefeller when," and who will soon be joining him.

The alert, modern management of the big oil companies, almost without exception, recognizes that homes made comfortable and convenient by oilheating contain, by and large, the best friends that the industry has . . . and the oil industry needs lots of friends. These men recognize that we must supply oil for all manner of public needs, and that our real problem is not how to choke off our best friends but rather how to get the necessary steel and other facilities to keep on producing more and more.

Pratt's report will please the military crowd and a few other Washington officials who have worked out long ago a national fuel policy to be administered by them. If it begins to exert influence in any other direction, it would be well that the oilheating industry, backed by its consumers, be prepared to attack.

NPC Finds Bright Outlook For Winter Oil Supply

NATIONAL PETROLEUM COUNCIL, semi-official advisory body, reported a bright outlook for oil supply this winter at its regular quarterly meeting in Washington, October 21. Chairman Walter S. Hallanan said the country-wide supply situation is "very optimistic." Director Max Ball of the Interior Department's Oil & Gas Division praised the industry for its "tremendous accomplishment" but warned that the margin is slight and any calamity or unforeseen difficulty could cause shortages.

The NPC report indicated that military requirements have been met and no further difficulties are expected. California labor trouble, the report said, has caused little or no shrinkage in West Coast stocks, and refinery capacity is operating near normal.

Demand for the first eight months of this year was up 6.3%, the report stated, while supply increased 9.9%. It was indicated that this differential is likely to be maintained during the winter.

B. I. Graves, chairman for District 1, said the overall eastern supply is in good balance with demand, and he saw no difficulty short of some unforeseen calamity.

In District 2, Chairman B. L. Majewski reported "fueloil is coming out our ears," and said, "What we need is more customers."

Supply in District 4, the Rocky Mountain area, presented no problem with stocks higher than last year, and District 5, the Pacific Coast, is expected to get by with no serious inconvenience.

The report indicated that the tankage shortage is the real problem, but enough products now are in storage to cover the winter adequately.

Automatic Register

A Revolutionary Control for Forced Warm Air Systems

by

Henry A. Aronson*

TODAY'S WATCHWORD is Efficiency. With fueloil high priced, it is necessary to squeeze every possible Btu out of each gallon of oil. In accomplishing this, emphasis has been placed on combustion efficiency, and rightly so. However, in some cases the overall efficiency of the heating system is being overlooked. It is possible, and not uncommon, to have a burner operating at top efficiency and still have a grossly inefficient heating system.

There are many ways this can happen. Poorly designed equipment; too much heat loss in the furnace room; excess conduction losses through the floor —and many other items dissipate heat without benefiting the structure. Some of these conditions cannot be readily changed on existing installation, important as they are. In making new installations, a great deal of thought must be given to the equipment used, and its installation should follow the best practices.

Distribution Losses

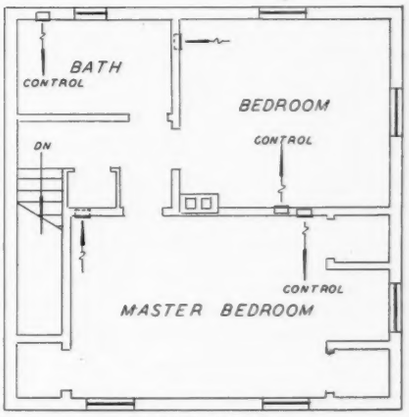
One of the most flagrant losses in efficiency is due to improper distribution of the heat through the house after it is generated. Obviously if the heat is not sent where it is needed, when it is needed, and only in the necessary quantities, the system will not be efficient regardless of the combustion efficiency. Many residence heating systems are so poorly balanced that it is impossible to obtain comfortable temperatures throughout without overheating other portions of the building, which naturally wastes heat. Another loss in the average system is due to the failure to obtain maximum benefits from external heat, such as the sun, cooking, fireplaces, etc., where the heat from these sources is added to the heat from the system and only results in uncomfortably high temperatures. Unbalanced situations resulting from temporarily upset conditions are also impossible to correct with manual regulating devices.

With forced air systems it is now possible to overcome many of these difficulties by the use of a Thermostatic Air Control. This device is actually a self-contained zone control that obtains its operating power solely through the Thermostatic element being affected by the temperature of the room air. For the sake of convenience, these controls are made so that they can replace a conventional forced air register. All of the zone control mechanism, the thermostat, and the grille are incorporated in the one unit. Consequently, these controls can be applied to existing installations as well as new ones.

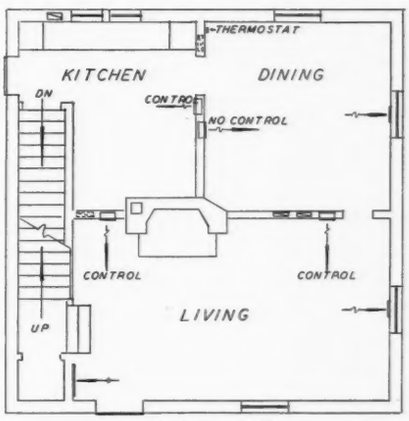
Some very interesting results have been obtained and a brief description of a typical installation is described here. The floor plan of the house is shown with the Thermostatic Air Control locations.

The burner operation is controlled in the conventional manner with the room thermostat in the dining room. While a Thermostatic Air Control was installed in the dining room it was kept in the "locked open" position as normally no automatic control would be used in this room. The room thermostat will do an excellent job of keeping this one room at an even temperature. It will also respond rapidly to the general heating requirements of the house, because as soon as any of the air controls start to close (they modulate the amount of air and are not an on-off type of control) more air will be diverted to the room with the thermostat so that it will come up to temperature faster and shut off the burner. Thus the thermostat can be placed in a "hard-to-heat" room, or the run to that room may be dampered down so that it will lag the entire system slightly. None of the other rooms will overheat because the controls do not pass more air than is needed to compensate for the heat loss in the room.

One of the reasons that this particular house was observed so closely is that it is an average type of residence with many common heating problems. First, there is an open stairway. Formerly, when the furnace operated for long periods, the warm air downstairs escaped up the stairway and caused overheating of the second floor bedrooms. If the dampers in the bedroom stacks were changed, these rooms became cold when the burner did not run as much. Also, with the manual dampers in a partially closed position it took the rooms a long time to come up to temperature in the morning, after night set-back. After the controls were installed, the registers automatically closed off when there was a great deal of escapement up the stairways. Consequently, there was no heat wasted through overheating these rooms. Because of the fact that it was possible to leave the balancing dampers in the wide open position, the rooms now come



SECOND FLOOR



FIRST FLOOR

*Application Engineer, The Dole Valve Co., Chicago 12, Ill.

up to temperature very rapidly in the morning, with the air controls eliminating over-run.

Like other small homes, the kitchen is rather small. When cooking a roast, or baking, the kitchen became very hot. The register is 6½ feet above the floor, and over the refrigerator, so that the owner's wife, who is built close to the kitchen floor anyway, could not get to it to shut it off. Consequently, the kitchen door was opened and the combined heat from cooking and the system was wasted to the outside. Since the control was installed, the register closes when the oven is in use and diverts the heat to the rest of the house where it is needed.

Typical installation *of an automatic air control register in a low wall location.*

The owner of this house also likes to use the fireplace at times. This will adequately heat the living room, and when the conventional registers were left open, the room overheated. Also, this expensively heated air supports combustion in the fireplace. At first the owner shut off his registers manually, but he usually forgot to open them before going to bed, with the result that the room was freezing cold in the morning.

After a few experiences of this kind, the registers were left open (they were high-wall with furniture under them which made them difficult to get at, anyway) and they either suffered with the uncomfortable temperatures or would open a few windows. After the controls were in use, the air from the system was diverted to where it was needed instead of being wasted.

It is easily seen that all these corrections added greatly to the occupants' comfort, which was the primary reason for the installation of the Thermostatic Air Controls. What they had was, of course, an automatic balancing system that corrected for upsetting conditions. Also compensated for, were variations due to sun and wind effects, but these are less dramatic and not readily apparent to a layman. However, one of the most intriguing operations of the controls in the living room occurred when they had several guests in the room. As the body heat (could be, their conversation helped) was emitted, it was noticed that the controls partially closed in recognition of this additional heat. With well insulated small houses, this occupancy load assumes important proportions.

Efficiency Checked

Accurate records of fuel consumption were kept in the seasons of 1946-47 when the system was equipped with conventional warm air registers, and in the season of 1947-48 when thermostatic air controls were used. Based upon the period from September 1 to March 31, the first season had 5,408 degree days and the second 5,756 degree days.

Thermostat settings, averaging day and night conditions, were 70.6° the first season and 73.3° the next season. Fuel cost was actually $87.37 in the first season and $80.79 the next season, based upon the same unit price for the fuel. After adjusting for inside temperature differences between the two seasons, the actual costs were .0165 per degree day the first season and .0138 the next season, or a net saving of 17.4%. This residence is in Lombard, Ill., occupied by J. F. Lund.

Thus it must be appreciated that distribution is a major factor in overall heating efficiency, and will be reflected directly in fuel consumption. Therefore it behooves us all to go well beyond combustion efficiencies when checking our jobs. Even without considering fuel saving, proper distribution is the answer to heating comfort. And don't forget that people complain when they are uncomfortable. Very few of your customers have the slightest idea whether their system is really efficient or not technically, but they all have a pretty good sense of their own comfort.

The possibilities for profit in modernizing existing heating systems are excellent. The sale of specialties on new installations not only builds up the sale, but results in a better operating heating system with customer satisfaction as a result.

Items such as Thermostatic Air Controls are especially good from a merchandising standpoint. They offer a good unit of sale; one control or a complete installation will improve any forced air system. They can be used to cure some sick jobs, or they can be sold solely to modernize existing or new jobs, and there are few heating systems that do not have some actual or potential troubles with distribution. Of interest, too, is the fact that these controls can be installed when the heating system is in operation. No shut down is required.

Thermostatic Air Controls are time saving for dealers, inasmuch as they are automatic balancers. No need to go back to balance jobs when the weather changes severely. Air controls do it for you.

◈

L. C. Lynn recently assumed the duties of district sales manager for Milwaukee and the southern half of Wisconsin for United States Machine Corp., Lebanon, Ind. Mr. Lynn, who has been associated with the company since 1938, previously had been connected with Central Service Co., Des Moines, a Winkler distributor and at the same time also served as factory representative in two Iowa counties. He later became a full time eastern Iowa district sales manager. After serving in a wartime government position for three years, he returned to the company in 1945 as Winkler representative in Colorado, New Mexico and eastern Wyoming.

F. J. Williams has been appointed Mid-West district manager in charge of domestic heating sales, Fluid Heat Div., Anchor Post Products, Inc., Baltimore 24, Md. He will maintain headquarters in Chicago and will make available to Fluid Heat dealers sales and promotional help, as well as technical aid.

Oddities in Servicing - II

Improving Warm Air Furnaces and Ending Radio Interference

by
J. W. Schulz

ON-THE-JOB improving of oilheating equipment, though frowned upon by many manufacturers and authorities on safety aspects, often is done so well by bonafide service experts that immeasurably improved performance is the result.

"I am buying a certain model oil-fired warm air furnace rated to be fired at up to 1.75 gph," explains one burner dealer in discussing on-the-job improvements to brand new equipment. "Like many conservative dealers, seldom if ever do I plan on firing a furnace hard enough to get the maximum output from it. Most of the units rated for 1.75 gph are fired, on my installations, at 1.35 or 1.5 gph, and the result is that the firebox built in the unit and suitable for 1.75 gph is too large for best performance. In fact, to bring this prefabricated firebox up to a red heat which really suits me and gives cleanest burning and highest CO_2 readings, I've got to fire it harder than 2.0 gph."

Before even finishing the installation of one of these new furnaces, this dealer reduces the nozzle height and the length of the firebox in the manner shown in the accompanying drawing. Also he provides the back wall corbel shown, because his combustion testing have proved this steps up the CO_2 by almost one percent. Light weight, insulating type firebrick are used in making these changes because they can be cut to special shapes easily and installed quickly. In addition, they provide the extremely high firebox temperatures this dealer is determined to have on his installations.

Five steps to reduce radio interference are used as the standard procedure, even on installations only a few months old, by the service men employed by one large equipment distributor.

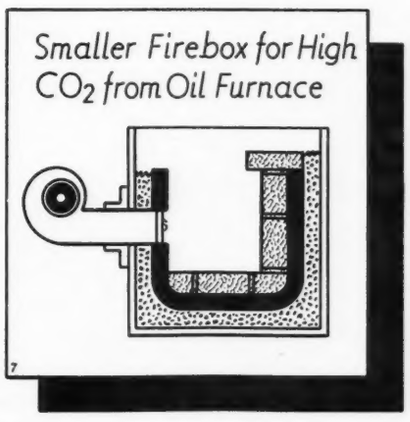
First, the stack control is shifted from a cool location on the smokepipe to a hot spot over the oil flame. This automatically reduces the spark timing from about one minute to ten seconds or less, says the equipment distributor, and gives the owner similarly reduced reason to complain about any slight buzz on the radio caused by the spark of the intermittent ignition system.

"I want the stack control in the hotter position anyhow," the distributor confesses, "because with the very low stack temperatures given by these big, downdraft furnaces, a stack control located in the smokepipe fails too often. It becomes coated with soot. The burners stop on safety when they shouldn't, and we're always going out on service calls to clean the stack control sensitive elements."

Second in their standardized efforts to end complaints about excessive radio interference, these service men adjust the spark points of the ignition system for a spark gap which they say is "somewhat shorter than usually is used." Asked to explain this, they say that most service men set the spark gaps wider than 3/16" by a good margin when they do not actually measure the gaps, whereas gaps between 1/8" and 3/16" give good ignition when in precisely the proper positions with respect to the nozzles, yet give reduced radio interference.

Third, in replacing the gun tube assemblies, these men twist together the high tension wires.

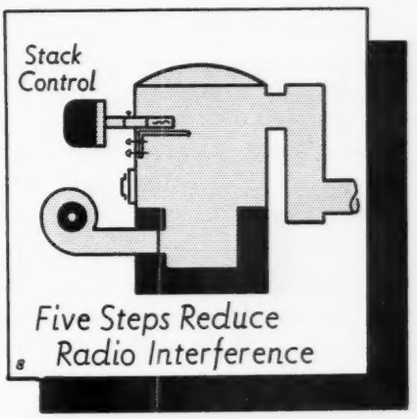
Fourth, they set the stack control adjustments for minimum ignition time.



Fifth, they connect a ground wire to the oilburner and the warm air furnace. The other end of this wire connects to a water pipe, of course. The ignition transformer is inspected to make certain its case connects electrically to the burner chassis.

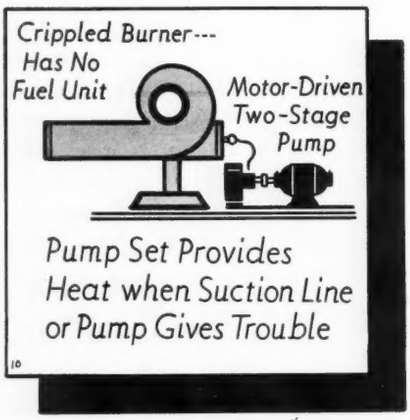
With the stack control moved to its over-the-flame position, a stainless steel baffle plate, bolted under the stack control element, shields it from radiant heat.

Another oilburner dealer, who aims only to end radio interference once and for all by taking one quick, positive step, fits all of his new burners with a condenser or radio trap. Fortunately, the burner has an electrical junction box large enough to house the trap this dealer finds large enough and effective enough. Two wires which come out of the end of the small cylindrical trap simply are connected in parallel with the 110-volt input line, or primary connections, of the ignition transformer, and the metal body of the trap is connected to the oilburner chassis or ignition transformer case to ground the trap. Thousands of dealers using relatively inexpensive radio traps of this type find them highly effective. Although the ignition transformers on modern burners should not cause interference on radios, actually occasionally they do. According to some burner dealers, certain makes of transformers give radio interference more than occasional-

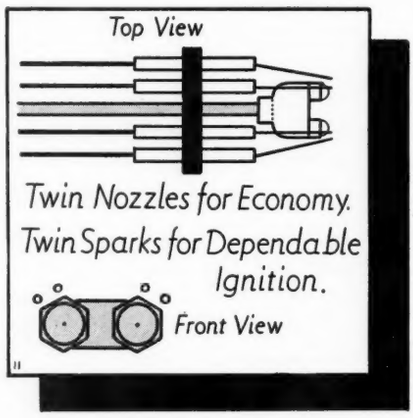


ly. Dealers servicing all makes of burners simplify and speed greatly the work of answering radio interference complaints by keeping radio traps in stock and posting their service men on how to apply them to burners in a few minutes.

This service oddity is reported by a fueloil company which services some burners to which a two-stage pump cannot be fitted easily. When a fuel unit gives trouble in one of these burners, it is removed for repairs which may take a week or two. A motor-driven two-stage pump, carried in the service man's truck for the purpose, is connected to the suction and return lines and the oilburner nozzle line. Wired in parallel with the burner motor, this pumping unit runs when the burner motor runs, thus provides pressure for the nozzle when this is needed. The two-stage pump overcomes difficulties of suction line leaks which cannot be overcome by single-stage pumps. When there's a service call on an odd make and model of burner, the motor-driven fuel unit often is used to provide heat until repairs can be made to the unusual pump or fuel unit on the burner. Special parts sometimes are obtained to permit applying a two-stage fuel unit to a burner that comes as standard with a single-stage fuel unit; this is done where the breakdowns relate to suction line air leaks on outside tank installations, or to exceptionally high lift from fueloil storage tanks in terraces to the burners.



Having a decided preference for twin nozzles for burners fired harder than 5.0 or 6.0 gph, and for twin ignition systems for these large burners, a certain service manager alters all his new, large burners in the shop before he installs them. The twin nozzles give greater fuel economy because they permit adjusting



for higher CO_2, he says. His experience is that a 3.0 gph nozzle atomizes the oil better than a 6.0 gph nozzle. The twin ignition systems give more dependable operation because the burner starts just as well with either working as with both working. In checking one of these burners, the service man disconnects one ignition system at a time and tests the other, making certain that when he leaves the burner both ignition systems are working.

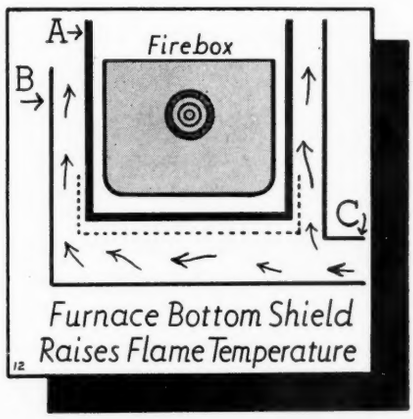
One set of spark points lights the oil from one nozzle, and the other set serves the other nozzle. Continuous ignition is preferred for these jobs by this service manager. For one thing, he says, with continuous spark the oil flame will not blow out if one nozzle clogs entirely while the burner is in operation.

The stainless steel firebox in one model furnace did not heat up sufficiently to please a burner dealer; he blamed the smoke and low CO_2 readings on low firebox temperature. He did not aim for a cherry-red or hotter intense heat which might ruin the firebox in a few years, but he was not satisfied that the firebox did not glow in the dark at all when the burner was stopped after a 15-minute run.

An accompanying diagram gives an idea of the firebox arrangement. The direct heating surface of the furnace, labelled "A," is about an inch from the stainless steel combustion chamber. "B" is the furnace outer jacket. Air from the circulating blower of the furnace unit comes into the jacket at "C."

At first, the dealer planned to fill the space between the firebox and "A" with rock wool or other insulating material. The manufacturer of the furnace sternly warned him against doing that. Unable to lose to the relatively cool direct heating surfaces some of the Btu's it received from the flame, the stainless steel firebox would overheat and be ruined.

The dealer was stymied only momentarily. Next he thought of the idea of placing a sheetmetal shield at the location of the dotted lines in the drawing to keep the blast of air from chilling the furnace wall "A" excessively. After experimenting with different shield shapes and different spacings between wall "A" and the shield, he obtained precisely the firebox temperatures he desired, along with cleaner combustion and the higher CO_2 readings which mean greater fuel economy.



Have you ever been called out because a very old wall flame rotary burner was balky about lighting after a long period of idleness? A good service man, encountering this on a job where a warm air furnace in a cool basement became chilled at night after a new clock thermostat was installed (by the service man, who therefore was blamed for the burner trouble) came quickly to a good remedy for the trouble. Although when he tested it he judged the ignition trans-

INCREASE YOUR PROFIT

Balance Automatic One-Pipe Steam Heat

For Fast, Uniform Heating

With "Detroit" Ideal Fast-Venting System

When automatic steam heat—oil, gas or stoker—comes on at the call of the thermostat, air must be vented from steam mains and radiators *quickly.*

Large, adjustable venting ports are necessary to obtain rapid and uniform heat in all radiators at the same time.

The "Detroit" Ideal Fast-Venting System for low pressure one-pipe steam—No. 300 Multiport for radiators and No. 861 Hurivent for mains—provides the adjustable fast-venting needed for fast, uniform and economical heat distribution, and does it quietly on the first few ounces of pressure. Eliminates cold radiators.

"Detroit" No. 300 Multiport Radiator Air Valve

Venting rate is adjustable by means of knob on top of valve. Lets air out fast. Adjustable feature makes balancing of the system easy.

Attractively styled black bakelite case. Adjustment knob easily locked to prevent tampering.

"Detroit" No. 861 Hurivent for Steam Mains

Full half-inch diameter port vents the steam mains quickly. Will vent 130 feet of 2" main in 30 seconds at only 4 ounces pressure. Handsomely finished. Shank threaded ¾" male and ½" female N.P.T.

These large port valves:

1. **Balance the system. The adjustable No. 300 Multiport allows you to speed up the slow heating radiators and get the proper amount of heat from *all* radiators *simultaneously.***
2. **Provide quicker heating. Let the steam out of the boiler into all the radiators at once.**
3. **Vent the radiators more quietly. Vented air is effectively muffled between inner and outer shells of the No. 300.**
4. **Save fuel. Steam reaches radiators at once instead of going to waste in basement, resulting in shorter firing cycles and lower fuel consumption.**
5. **Are sturdily built and will do a real job of fast venting for many years.**
6. **Are available through all plumbing and heating wholesalers.**

Install the Ideal Fast-Venting System on all one-pipe steam jobs. It makes good heating plants better—has cured many sick jobs without expensive changes. Write for Bulletin No. 166.

5121

DETROIT LUBRICATOR COMPANY

"DETROIT"

DIVISION OF AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

GENERAL OFFICES

5900 TRUMBULL AVENUE • DETROIT 8, MICHIGAN

Canadian Representatives: Railway and Engineering Specialties Ltd. • Montreal, Toronto, Winnipeg

"Detroit" Heating and Refrigeration Controls • Engine Safety Controls • Float Valves and Oil Burner Equipment • "Detroit" Expansion Valves and Refrigeration Accessories • Stationary and Locomotive Lubricators

Serving home and industry

AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILER • ROSS HEATER • TONAWANDA IRON

former on the burner was good, he took it off and installed in its place two 10,000 volt transformers. With one of these transformers connected to each of the two spark gaps, instead of a single 15,000 volt transformer connected to both gaps, the burner starts beautifully no matter how cold the furnace gets during the night.

Another case of ignition failure being related to a long layoff at night involved a horizontal rotary cup oilburner firing a steam boiler. Although the boiler was not being used to provide hot water and therefore usually would not be equipped with a temperature control, the service man installed a boiler temperature control and wired it in parallel with the room thermostat. With the new control set at 120° during the coldest months when the ignition failures used to occur, the burner starts every so often during the night. This avoids the ignition failure trouble caused previously by the boiler's chilling.

To make them quieter, a certain dealer removes the 1750 rpm motors from the brand new pressure burners he receives for installations to be fired at a much lower rate than the burners can be fired, and installs instead 1125 rpm motors. He did this first only for his "show room" installations on which he wanted outstanding quietness to impress the sales prospects for whom he was demonstrating the burners. It worked out so well that he has made it standard practice for all his low gph jobs. In this case, the equipment manufacturer has nothing but admiration for the intensive way the dealer goes about improving the burners after he receives them.

There is no general rule to decide when a dealer may or may not attempt to improve on the burner equipment shipped him by a manufacturer. Service men frequently must take extraordinary measures, which amount to improving the equipment or adding to it, in order to make new equipment satisfactory to owners, and keep old equipment from breaking down or giving other kinds of trouble. On-the-job changes to new or old equipment certainly are "permitted" when they do not alter safety aspects or when they make for greater safety, and when they give performance advantages. Where trouble results from efforts to make on-the-job improvements, often the basic difficulty lies in tinkering by an uneducated or unthorough service man. The well-educated, thorough service expert can be trusted by the dealer and the equipment manufacturer to make on-the-job changes only when necessary, and to make only changes which will prove advantageous.

Acting Mayor C. *Markland Kelly, seated, hands proclamation declaring "Oil Progress Day" in Baltimore to Mrs. Anne Motter of the Maryland Oil Heat Association. At left is P. S. Cochran, chairman, Oil Industry Information Committee of Maryland; Charles Lucas, president, Oil Heat Association of Maryland. J. Hollis B. Albert, Association secretary is at the extreme right.*

Burner and Oil Men Observe "Progress Day"

OIL PROGRESS DAY, October 14, was an outstanding success according to reports being received by the Oil Industry Information Committee, sponsor of the event. Every part of the country witnessed meetings, parades, and "open house" celebrations marking the day.

In New England, the governors of five states proclaimed "Oil Progress Day" and more than 250 speeches were made by oil men. Essentially a marketing area, the industry's message of progress was carried by dealers, jobbers and service stations to the New England public. Through all the cities of Rhode Island and up into northernmost Maine came proclamations by Mayors. The Presidents of Providence, Rhode Island and Brown Universities issued statements lauding the oil industry's contributions to human welfare. Radio, school, newspaper and community participation was at a high level.

The preliminary report from the Middle Atlantic district showed more than 45 events and 200 public talks, 48 radio programs, 46 radio spot announcements, 14 mayors' proclamations and the distribution of more than 3,200,000 pieces of literature. Special events included open houses at refineries, bulk plants, laboratories and service stations, essay contests, parades, oil exhibits, displays, and an airplane-towed "Oil Progress Day" pennant over Washington, D. C.

Early reports from the Great Lakes district indicate that more than 300 speeches were delivered during the week with Detroit accounting for about 100. The Chicago community luncheon was attended by 525 persons, including Mayor Kennelly. There were more than a half dozen parades, the theme dedicated to the old and the new in oil's progress. Open houses were held throughout the district, such events in one city attracting more than 4,000 visitors. Special advertising in the Great Lakes district reached a reading circulation of 7,700,000. There also was widespread use of radio.

In the Missouri-Iowa-Nebraska district, 6,000 service stations were decorated with posters and streamers proclaiming the industry's progress. Open house activities took place at more than 200 bulk plants and service stations. Local committees sponsored 120 radio spot announcements and speakers addressed 115 business and civic groups in the district. Thirty mayors issued proclamations. A large amount of newspaper advertising was used in this area and almost one and a quarter million pieces of literature were distributed.

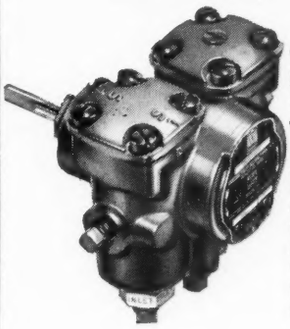
More than 1,200 communities participated in the Minnesota, North and South Dakotas area and more than two million leaflets were distributed, in addition to 30,000 "Oil Progress Day" posters and streamers. Proclamations were issued by 113 mayors in the three states and more than 68 speeches were delivered. There were 600 radio spot announcements and ten radio programs. Other highlights in this district were a large community leader luncheon in the Twin Cities area and the presentation of a fire engine to the city of Winona, Minn., by local oil men.

WEBSTER ELECTRIC features a Complete Line

FUEL UNITS
TRANSFORMERS
THERMODRIVE

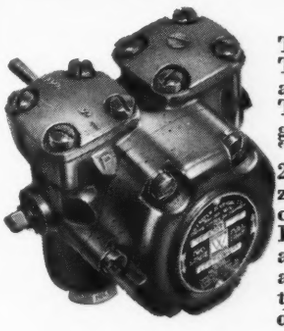
Top Quality Products to Meet ALL Needs . . . For Original Equipment or Replacement

If It's A Single Stage Fuel Unit You Need . . .



The Webster Electric Type "Q" Single-Stage Unit will deliver 13 gallons per hour at nozzle connections based on No. 3 oil at 100 lbs. pressure at 1750 R.P.M. A filter cartridge is available that is interchangeable with old strainer for protection of small nozzles. It has all the high quality features which have made Webster Electric Fuel Units so popular in the oil burner industry.

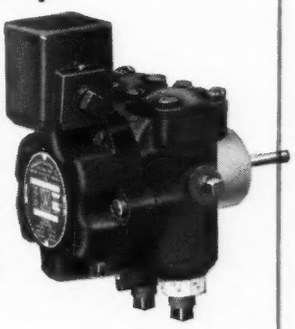
Two-Stage Fuel Units Meet Needs of all Two-pipe Systems



The Webster Electric Type "T" Two-Stage Fuel Unit is available in two different capacities. The Type "1-T" will deliver 13 gallons per hour. The Type "2-T" and "4-T" will deliver 20 gallons per hour at the nozzle connection based on No. 3 oil at 100 lbs. pressure at 1750 R.P.M. A filter cartridge is available that is interchangeable with old strainer for protection of small nozzles. All unit data is shown on nameplate.

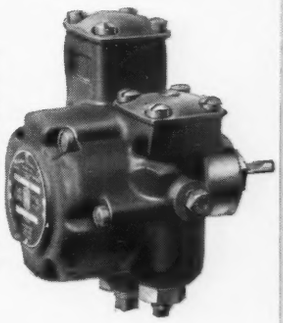
Instantaneous Cut-Off Unit Electrically Controlled . . . The Modern Way

The Webster Electric Instantaneous Cut-Off Unit provides for immediate cut-off of the fuel supply when the burner motor shuts off. It is designed for attachment to standard Webster Electric Fuel Units for new equipment or for converting present equipment. Its use permits boilers to stay clean longer, to operate more efficiently, positively eliminating after pulsation.

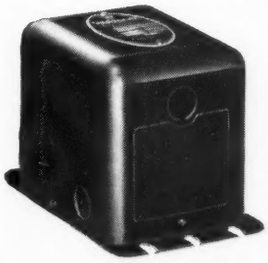


Burn up to 20 G.P.H. Without Use of an Auxiliary Strainer

With the Webster Electric Type "4-T" Two-Stage Fuel Unit, burning rates up to 20 G.P.H. may be obtained without the use of an auxiliary strainer. This is accomplished by the use of an extension strainer. All other features are interchangeable with the standard Webster Electric "1-T" Unit. The large-capacity suction stage empties the lines quickly.

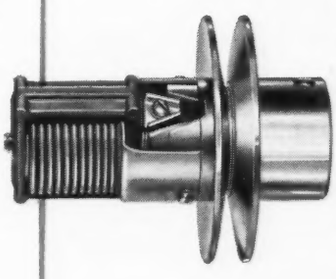


Two Basic Transformer Models Fit All Ordinary Requirements



The Webster Electric Series 311 and 321 Ignition Transformers offer wide adaptability for use in streamlining new beauty for high efficiency burner design popularly required today. Small and compact, these transformers offer optional choice of such features as the oversize "E" junction box and multi-positioned box connectors, six standard types of secondary terminals and many variations of mounting plates.

Thermodrive...Controlled Air Circulation...the Newest Aid to Warm Air Heating Performance



The Webster Electric Thermodrive . . . a variable speed blower control . . . is a major development in the control of warm air heat distribution. It is easily installed on all types of forced air systems whether the converted gravity type or the more modern furnace blower units. It completely eliminates cold air blasts at the start, hot overruns at the end of the heating cycle. Economy and comfort results.

Webster Electric Fuel Units are made in Canada by Canadian Acme Screw & Gear, Ltd., Toronto, Canada.

WEBSTER ELECTRIC
RACINE WISCONSIN
Established 1909

Export Dept. 13 E. 40th Street, New York (16), N. Y. Cable Address "ARLAB" New York City

"Where Quality is a Responsibility and Fair Dealing an Obligation"

Ending Assorted Breakdowns

fueloil & oil heat Short Short Article on Burner Service

ONE EXPERT BOASTS he can make any well-designed burner behave the way it should, regardless of whatever trouble it may have given earlier. He counts few burners as poorly designed.

The following case history shows how this expert uses technical know-how and thoroughness to ease a troublesome burner into uncommonly dependable operation.

"Good contacts" give this man most of his new business today, for he is known for miles as a fair and capable specialist who regards a sick burner as a personal challenge. He begged to do some of his first major repair jobs and worked long hours while rendering short bills, but today those jobs give him thousands of dollars worth of publicity. Important business men in his city know that any ailing burner can be made right with no fuss and with fair charges for the best of work simply by telephoning this burner expert.

News of this particular ailing burner came to the office of the service expert from a bank president whose newly-married daughter had just bought and moved into a house which, to hear the neighbors tell of it, had been haunted by oilburner trouble. Though only two or three years old, the burner had caused a repair truck to stop as often as the milkman's truck, said the neighbors. The winters of the previous occupants of the house had been punctuated by housecleaning episodes and vacations at relatives' homes, all dictated by various kinds of burner misbehavior.

The expert took these steps and turned the burner from a troublemaker into a dependable and efficient heat-producer:

1. He removed the control panel from the smokepipe and installed it on a flue clean-out door. The reason was that the large, underfired warm-air furnace gave an uncommonly low stack temperature. Starting cold, the burner often stopped "on safety" because the smokepipe temperature increased slowly. Parts of the stack control panel had been re-adjusted and bent, for efforts had been made to adjust for safety timing of about five minutes to compensate for the slow heating of the smokepipe, but seemingly these efforts had crippled the control panel so that following ignition failure the burner did not stop "on safety."

2. As the flue clean-out door location for the stack control permitted this and as the panel had to be put in condition for safe, dependable operation, the safety timing of the control panel was set for 30-seconds to gain safety of operation even greater than usual. If in the future the burner failed to light, it would run only 30-seconds before stopping "on safety."

His first two improvements, the expert reasoned, made certain that for the first time the burner was safeguarded by modern controls in excellent working order, for it was apparent that previously the controls had given no protection in case of ignition failure or flame failure.

3. Because ignition failure undoubtedly had caused some of the earlier troubles, the expert installed new electrode and insulator assemblies, replaced the high tension wires in the gun tube, and used care in setting the spark points.

4. Finding the fuel unit on the burner a make he personally dislikes and finding evidence of the shut-off valve's having leaked in the past, the expert installed a solenoid shut-off valve to eliminate chances of major trouble being caused in the future by a shut-off valve leak. He took this step even though the shut-off valve did not leak.

5. The expert filed the latch of the flame observation door of the furnace so that in case of delayed ignition the door would swing open easily.

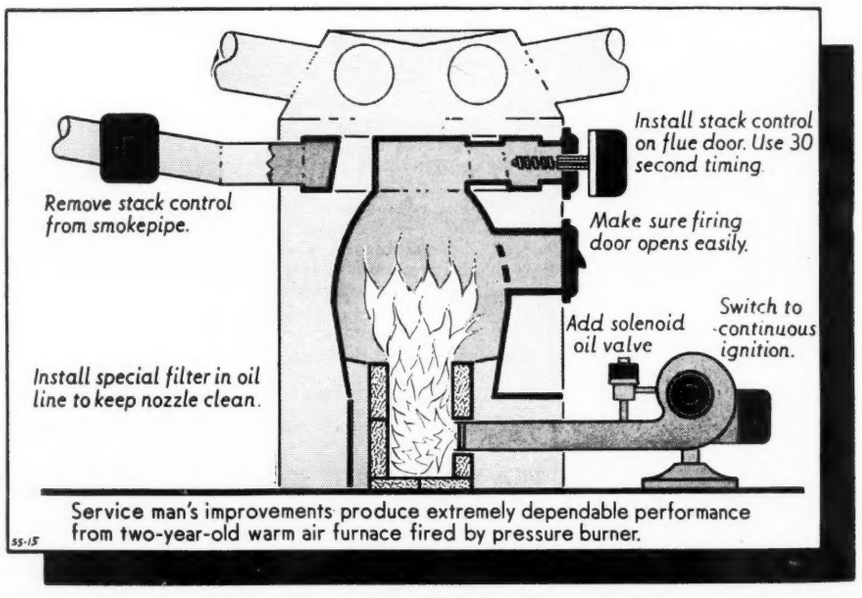
6. Because he personally thinks this is more dependable and always switches to it where he thinks the fuel unit might cause interruptions in the flow of oil from the nozzle, the service expert switched from intermittent to continuous ignition. He made certain that the transformer gave a full-strength spark.

7. Using a special instrument, the man checked the oil tank to make certain it did not contain water, sludge, or gum which would cause burner trouble.

8. He installed an oil line filter.

9. He installed in the burner a nozzle he knows he can put faith in, then tuned the burner using a CO_2 tester, draft gauge, and stack thermometer.

Here's a most important part of the system used to keep this burner from giving trouble again. Along with his bill for the repairs, the expert sent a bill for servicing the burner for one year from the date it was put in top-notch condition. Charging $22 for the time and material for this year's service gives, in effect, a bonus on repair work so well done that no service calls follow.


Install stack control on flue door. Use 30 second timing.
Remove stack control from smokepipe.
Make sure firing door opens easily.
Add solenoid oil valve
Switch to continuous ignition.
Install special filter in oil line to keep nozzle clean.

Service man's improvements produce extremely dependable performance from two-year-old warm air furnace fired by pressure burner.

55-15

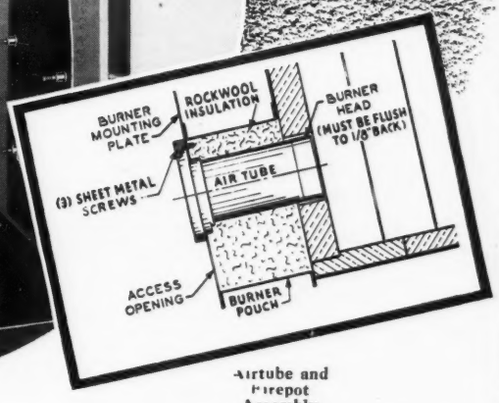
STOP THE MUSIC

for the Biggest News in Oil Burners

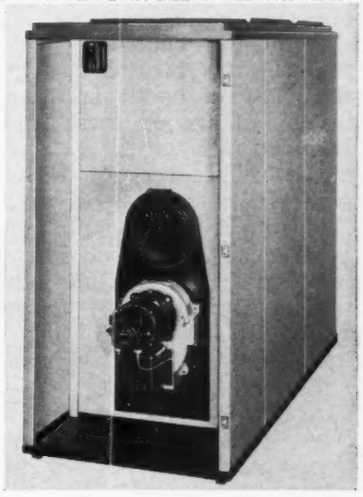
THE NEW Luxaire

Plate-Mounted BURNER

Placing Burner on 4 Positioning Studs



Airtube and Firepot Assembly



Burner Completely Installed

The new Luxaire Oil Burner offers revolutionary innovations in oil burner design and construction.

The Firepot and Air Tube are mounted in the combustion chamber before the burner is mounted to the Burner Mounting Plate. The unique method of attaching the air tube to the Burner Mounting Plate, by using only 3 sheet metal screws allows the burner to be removed without disturbing the Firebox.

The burner chassis is solidly mounted to the Burner Mounting Plate with 4 large, threaded spacer studs, as shown above.

All operating parts of the burner are conveniently located outside the heating unit and are readily accessible for inspection or servicing.

A hinged transformer on the rear of the burner housing is easily opened exposing the entire nozzle-line-electrode assembly for inspection or removing from the burner.

The motor, fan and pump are a complete, dynamically balanced unit which assures vibrationless, noiseless operation and long life.

You get clean, quiet and efficient combustion of the heaviest oils used for domestic heating.

THE C·A·OLSEN MANUFACTURING COMPANY

Luxaire — HEATING & AIR CONDITIONING UNITS

ELYRIA 12, OHIO

fueloil c oil heat

YOURS for Profitable Selling

The Complete Line of S

. Among the many sound reasons why "Dealers Who Know Choose Silent Glow" is one which has outstanding merit: Silent Glow offers a line which is second to none in its completeness and versatility. No matter how high the quality, how sound the engineering, how well-known the name, if there is not a burner which meets a particular requirement, a sale is often lost.

Silent Glow enables its dealers to meet this contingency with the array of power and range burners shown on these pages. Included are types of equipment to fill every oil heating need from cottage to castle . . . from private home to hotel. Whatever the installation — residential, commercial, industrial or institutional — there is a Silent Glow Oil burner to supply even, dependable, healthful heat at lowest cost.

Note particularly among the NEW additions: 1, the sensational Model 600 Air-Seel that is making history in the small home market: 2, the amazingly efficient Air-Seel Boiler-burner unit; 3, the Dual-Fuel burner. And don't forget Silent Glow BACKS YOU with powerful national advertising. For complete details on the entire Silent Glow line . . . . .

MAIL THIS COUPON!

The Silent Glow Oil Burner Corp.
1477 Park St., Hartford 6, Conn.

I would like information on:

- ☐ A Dealer Franchise
- ☐ Range Burners
- ☐ Power Oil Burners
- ☐ Dual-Fuel Range Burners

Company.....

City.....State.....

Your Name.....

AIR-SEEL LINE

600 AIR-SEEL

Fills a long-standing need for a burner of highest quality in the popular price field. Brings the utmost in dependable, economical oil heat within range of every small home owner.

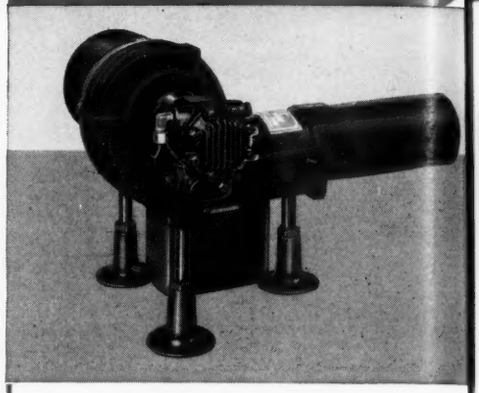
800 AIR-SEEL

Like other members of the Air-Seel family, this time-tested burner, equipped with the unique Air-Seel fan, conserves the heat it makes . . . effects important savings in fuel.

1300 AIR-SEEL

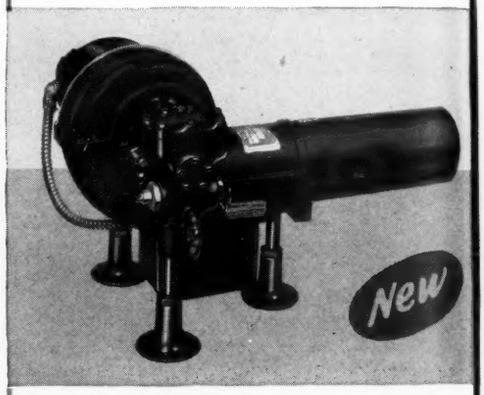
The largest capacity Air-Seel. Known to thousands for its wonderful heat-saving ability. All Air-Seel burners carry the Good Housekeeping Seal — an invaluable sales help.

STANDARD LINE PR



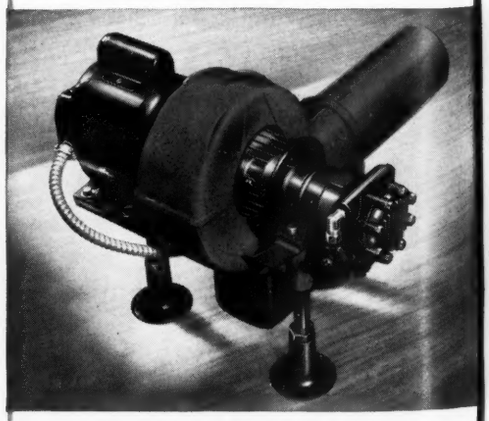
MODEL 600 PR

A small burner with a big sales future. Identical with "600" Air-Seel except that it has the conventional type of fan.



MODEL 1200

Now offered again for the first time since the war. A popular "in between" model for medium sized homes.

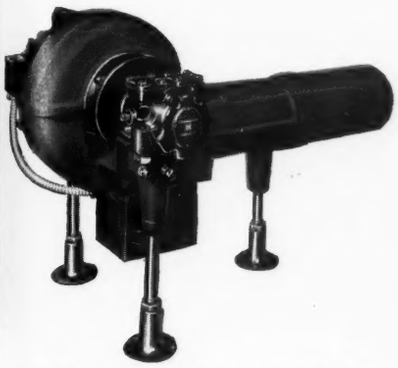


MODEL 1300S

Big brother in the Standard Line. This popular burner has long been a favorite with dealers and home owners alike. Ideal for larger residences.

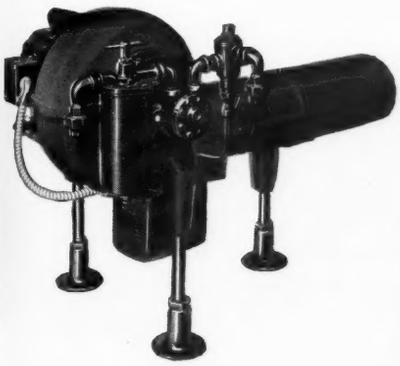
SILENT GLOW OIL BURNERS

IG BURNER LINE



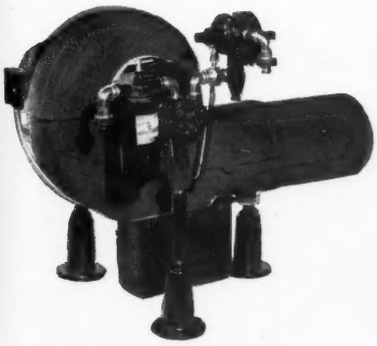
MODELS 1800 and 2800

Best for smaller commercial structures — stores, banks, restaurants, inns, lodges, etc. Maximum capacity for 1800 is 6 G.P.H.; for 2800, 9.5 G.P.H.



MODEL 3800

This medium size "big burner" is in demand for theatres, churches, civic buildings, smaller factories, hospitals and similar buildings. Capacity up to 13 G.P.H.



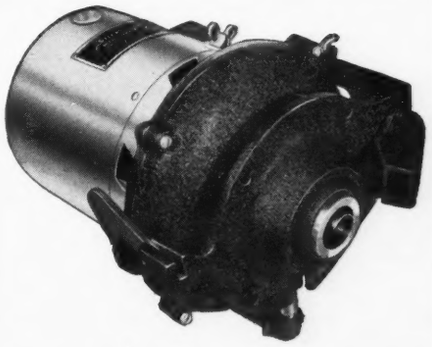
MODELS 6800 and 8800

Highest capacity models offered by Silent Glow. The burners for those profitable big jobs — hotels, factories, apartments where capacities up to 30 G.P.H. are required.

BOILER BURNER UNIT

The last word in a completely enclosed, compact packaged heating plant for steam or hot water. A boiler of amazing efficiency and durability fired by the renowned fuel- and heat-saving Air-Seel burner. Exclusive patented heat transfer surface provides a greater heating area for its size than any boiler ever designed.

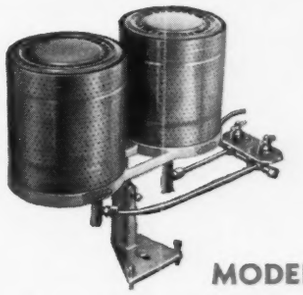
THE "PUP"



"The burner of a thousand uses." Widely used in baking ovens, restaurant kitchens, cooking ranges, potato chip kettles and similar commercial installations. A pup in size but a bear for work;

Those Who Know Choose
SILENT GLOW OIL BURNERS

RANGE BURNER LINE



MODEL SW

A long-time favorite. Many of these range burners have given satisfaction for over 20 years of hard usage. They carry a 5-year guarantee.

HUDSON BAY

Silent Glow's famous six-part burner that gives 20% more heat. Acclaimed as most significant range burner development in 15 years. Dual unit offered in 2 sizes; also single unit model.

MODEL S-8

A single unit, 6-sleeve burner for round parlor stoves, large hot-water heaters and similar installations. Like all Silent Glow range burners, shells are of Silcrome steel that will not burn out.

DUAL FUEL UNIT

Combines the speed of gas with the economy of oil. Never out of fuel. Burns range oil, city gas, bottled gas or a combination of oil and gas. Fully guaranteed by Silent Glow, pioneer manufacturers of sleeve-type burners.

British Nu-Way Excavation Uncovers Old Roman Pottery

WHEN NU-WAY Heating Plants, Ltd., Birmingham, England, associate of Nu-Way Corp., Rock Island, Ill., began excavating for construction of a new factory, fragments of ancient dishes, used by the Roman conquerors of England, were uncovered. Estimated to have been used about 1800 years ago, specimens of the relics were sent to W. F. Klockau, president of the Rock Island firm.

H. E. Hodgkinson, English archeologist, commenting on the discoveries observed that the factory site was located in part of a field known as Bays Meadow, Droitwich, Worcestershire, whose general location and position made it a desirable site for habitation. Mr. Hodgkinson points out that a Roman settlement was made at Droitwich not later than 50 A.D., with a Roman fort, covering an area of about ten acres, at Dodderhill, the high ground to the east of Bays Meadow.

"In Bays Meadow, within a hundred yards or so of the new factory, there was a Roman country house, or villa," continues the archeologist. Discovered in 1849, during the construction of a railway and examined further in 1924-27, the house, containing a large number of rooms was found to have a central heating system, employing a hypocaust, or system of chambers and flues.

"This system consisted of the use of hot gaseous products of an external fire or furnace," explains Mr. Hodgkinson, "by conveying the gases through flues or spaces under the rooms to be warmed and through a number of small chimneys distributed along the walls of the apartments, so that not only the floors but the walls radiated heat.

"The floors of the rooms and passages of this house had pavements composed of small cubes, or tesserae, of various colors, some of them in geometrical designs. It is not known when the house was originally built, but it was certainly occupied during the third and fourth centuries A.D."

The selection of pottery sent to Rock Island follows the usual pattern, being fragmentary, chiefly because the building materials discovered on these sites were those left as useless by medieval stone-robbers, and the pottery consisted of kitchen breakage consigned to the dump.

Included in the collection are two samples of Roman building material and three items of "samian or terra sigillata," fine red ware made in Gaul (France) on the lower Rhine and imported into Britain. Also, a lid of a bowl, ornamented with rouletting (white clay with brown paint), a fragment of a jar of white clay coated with brown paint, both examples of Castor ware, made some 1800 years ago in Castor, Northamptonshire.

Completing the collection are five pieces, identified as coarse pottery made throughout the Roman occupation of England, between 43 and 400 A.D.

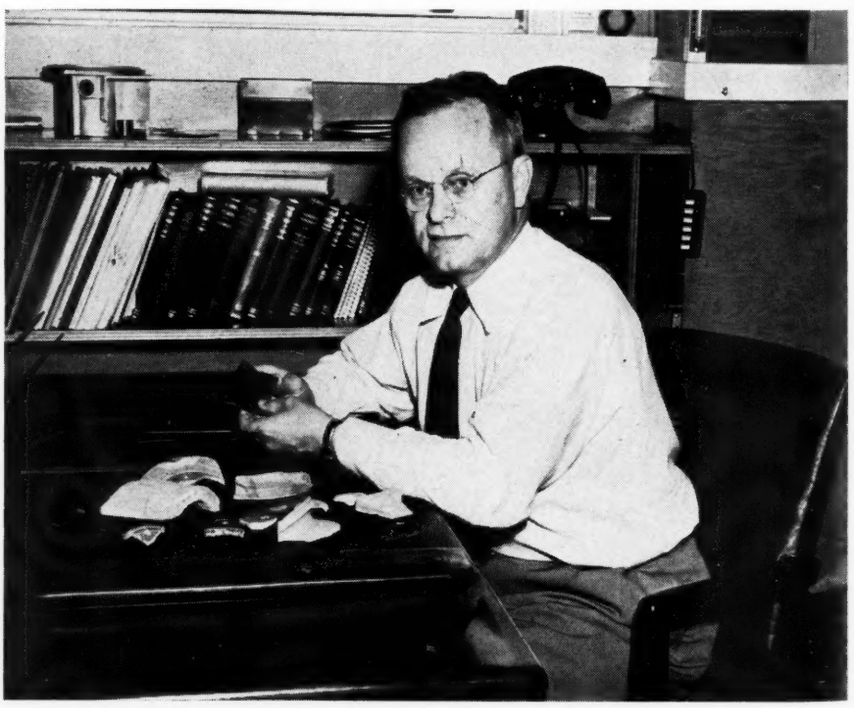
These consist of fragments of the neck of a jar, the grooved rim and side of a kitchen basin, fragment from a cooking pot with band of trellis decoration and the base of a large storage jar, which has a gray core and pink surface. Two samples of building material used by the Romans during their stay in Britain also are included.

The most interesting aspect of the discovery, probably, is the fact that the ancient villa employed central heating. That is more than nearly all houses in England have had for the centuries since then. English homes customarily are heated by fireplaces, but in recent years the trend has been more and more to installation of the central system.

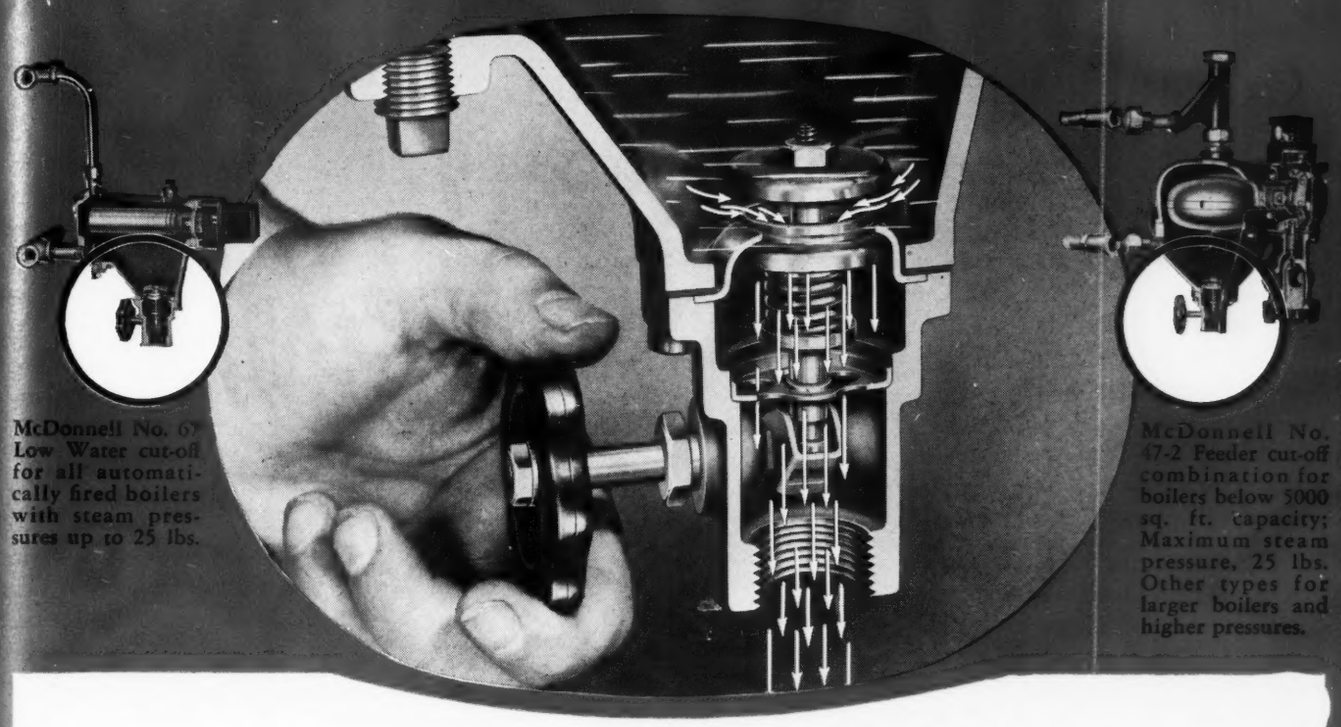
Nu-Way Heating Plants, Ltd., has been associated with Nu-Way Corp. for the last fifteen years. Henry Usborne, managing director of the English firm, is a Labor party member of Parliament and an advocate of world federation.

The English company, in addition to the regular Nu-Way line, makes an industrial type of oilburner and a line of coal stokers, and distributes that equipment throughout the world, with the exception of North and South America, served by the Rock Island company.

Nu-way Heating Plants maintains sales offices in Belgium, Brazil, China, Cyprus, Denmark, Egypt, Eire, France, Holland, Iceland, India, Iran, New Zealand, Northern Ireland, Norway, Palestine, Southern Africa and Sweden.



W. F. Klockau, *president, Nu-Corp., Rock Island, Ill., examining specimens of ancient Roman dishes and building materials, uncovered during excavating for the new factory of Nu-Way's English associate.*



McDonnell No. 67 Low Water cut-off for all automatically fired boilers with steam pressures up to 25 lbs.

McDonnell No. 47-2 Feeder cut-off combination for boilers below 5000 sq. ft. capacity; Maximum steam pressure, 25 lbs. Other types for larger boilers and higher pressures.

There's a world of difference in blow-off valves

There are two kinds of equipment: The kind that is just turned out, and the kind that is *thought* out—designed down to the last detail to do its job right. We can cite a lot of features that put McDonnell Boiler Feeders and Low Water Cut-offs in the thought-out class, but probably none is more convincing than the blow-off valve illustrated above.

In ordinary feeders and cut-offs the blow-off valve is just a standard, common-garden type. At one time ours was that kind, too, but we have a way of watching our product on the job, and it didn't take long to see that a special type of valve was needed.

We found that a standard valve fails to accomplish two functions which a blow-off valve should perform. In the first place, a conventional valve isn't very effective in ridding the float chamber of mud and silt. In the second place, it is practically worthless in the still more important, though less apparent function of a blow-off valve—draining the float chamber so that the action of the feeder or cut-off switch can be tested.

Obviously, to carry out these two vital functions properly, a quick-acting valve is needed with a large, wide-open, unobstructed passage. When we found that these qualities were not provided by any standard valve, we decided to make our own valve.

You see its construction above. When the handle is given a half turn its disc lifts high above the seat, loosening any sediment above it and opening an orifice that is actually larger than the valve's outlet. The big straight-through passage does a real job of sluicing out accumulations. Even more important than this, the big capacity of the valve quickly drops the water level in the float bowl, because water can not enter the bowl as rapidly through the half-inch equalizing pipe from the boiler as it flows out of the big 1-inch area orifice of the blow-off valve. This means quick, easy testing of the feed valve and cut-off switch. Regular testing of feeders and cut-offs is always advisable. In fact it is often made compulsory by insurance regulations and city ordinances. With this blow-off valve you or the owner or inspector can make an absolutely accurate test with the twist of a wrist.

Yes, there's a world of difference in the blow-off valve used in McDonnell controls—and there is a world of difference in many other things that put them in a class all their own.

Ask for new, Nov. 1, 1948 condensed catalog and price list.

McDONNELL & MILLER, 1310 Wrigley Bldg., Chicago 11, Illinois

Doing One Thing Well

REG U. S. PAT OFF.

Your Jobber Stocks Them

McDONNELL

Boiler Water Level Controls

Coastal's Expanded Terminal Speeds Truck Loading

THE RECENTLY COMPLETED expansion of storage capacity and dispensing facilities at the Port Newark Terminal, Coastal Oil Co., Newark 2, N. J., were opened with ceremonies on October 11. In many respects, the installation presents a pattern for plants seeking to clip valuable minutes from the loading schedules of customers' trucks.

Coastal, dealing in heating oils, kerosene and Diesel fuel, in its new terminal has provided dockage for the largest seagoing tankers. Storage units are served by a complex piping system that permits interchange of products at the dispensing equipment. Its truck service is geared to load and turn around customers' trucks in the quickest possible time.

The most prominent physical aspect of the expansion program is the group of three new storage tanks, each rated to contain 95-100,000 barrels of product. These tanks increase the overall Coastal storage capacity by 12,000,000 gallons, or about 30 per cent. The enclosed area surrounding each tank is created by a steel dyke so constructed as to reduce the ground space needed for the group. Conventional earth dykes would have required a ground area of eight or more acres, but with the steel dykes, only two and a half acres are used.

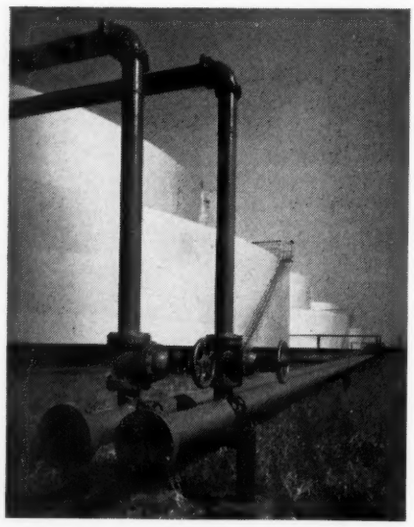
A rotary loading system, which has played an important part in Coastal's successful handling of truck traffic, also has been enlarged. The system originally embodied the use of twelve metered spills and plenty of turning room. Truckmen drive in under the spill that contains the product they want and serve themselves by pulling a cord. A high flow rate is maintained in all spills and the sales ticket printed by the meter takes care of the bookkeeping detail so quickly that truck loading and departure are usually a matter of but a few minutes. This is important because serving such a thickly settled area requires the ability to cope with an early morning peak in heavy seasons.

In the present expansion, the twelve original spills have been increased to twenty and many of the dispensing pipes have been boosted from three to four inches with corresponding increase in flow rate—some of them operate at 400 gallons a minute.

As an example of the speed with which loading is accomplished at Coastal: it used to take 16-18 minutes to load a 6,000 truck unit. Now it is reduced to 10-12 minutes. The handling of the truck traffic at peak periods has been further expedited and placed on a dependable year 'round basis by paving an area of more than 40,000 square feet surrounding the rotary loaders.

Coastal also has protected its reputation for product quality by employing the Saybolt inspection system. All products unloaded at the Port Newark Terminal are spot-checked to be sure that quality is as specified. The Saybolt Company has equipped a laboratory in the new plant building so that these spot-checks can be completed in 30-45 minutes. In this way, close quality control is maintained without interfering with the rapid flow of product.

The Saybolt Company also keeps the Coastal spills and meters under their certified protection. At regular intervals, the Saybolt calibrating truck takes 500 gallons from each spill, repeating the operation three or four times to establish complete accuracy. The contents of the calibrated truck are checked with the reading on the Coastal meter controlling the spill being checked, and, when accuracy has been established, the meter receives a tamper-proof seal that is a guarantee of accurate measure.



New tanks *at Coastal Oil's Port Newark terminal. Visible are the steel dikes surrounding each tank.*

The rotary loading rack is the hub of activity at this terminal. Less spectacular, but equally important is the marine side, where barges are being loaded regularly for trips up the Passaic and Hackensack Rivers, through Kill Van Kull and across New York harbor, serving Coastal customers as far away as Connecticut. Railroad connections for tank car movement to all points are reached by the plant siding. Additional storage and shipping facilities at Passaic, Kearny, N. J., and other key spots serve to round out Coastal's operations.

Canadian Survey Shows Oils Used For Fuel

DELIVERIES of heavy fueloils to Canadian users totalled 1,368,100,000 Imperial gallons in 1947 as compared with 1,074,300,000 in 1946, according to a compilation made by the Dominion Bureau of Statistics from reports submitted by refineries and their distributors and by major consumers. About 20 per cent of the 1947 total was for use in ships bunkering, 26 per cent for fuel in manufacturing plants, 25 per cent for heating buildings, seven per cent for locomotive fuel, 3.6 per cent for tractors and other motor vehicles, 2.4 per cent for electric lighting plants, 2.9 per cent for material in manufacturing plants, and 13 per cent under refinery boilers.

Most of the light fueloils and distillates was used for domestic heating and for tractor fuel, the former at 188,400,000 gallons in 1947 amounting to 76.5 per cent of the total and the latter at 57,500,000 with 169,500,000 in 1946. Kerosene deliveries in 1947 totalled 42,800,000 compared with 31,300,000 in 1946. In addition to the above, 25,600,000 gallons of fueloil and 1,200,000 gallons of kerosene were shipped for export by Canadian refineries.

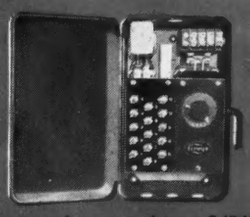
fireye

PREVENTS EXPLOSIONS

THE SAFE • MODERN *Electronic* COMBUSTION SAFEGUARD FOR OIL • GAS • PULVERIZED COAL BURNERS

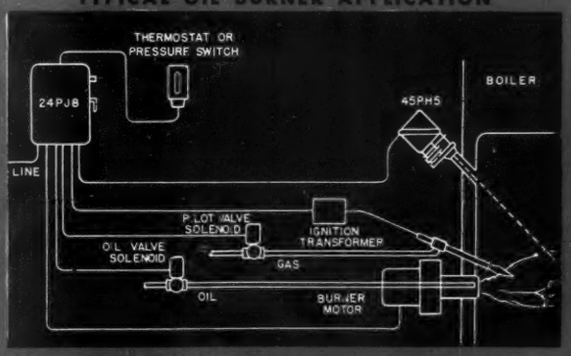
A Complete Combustion Control System providing:

- CONTINUOUS *Electronic* MONITORING OF OIL OR GAS FLAME
- PROGRAMMING CONTROL FOR AUTOMATIC IGNITION SYSTEMS



Programming control type 24PJ8 for all full automatic ignition gas and oil burner installations.

TYPICAL OIL BURNER APPLICATION



Photoelectric scanner type 45PH5 for automatic ignition oil burner installations.

Flame Rod 45JP1 for monitoring gas pilot flame on automatic ignition oil burner installation.

NOW AVAILABLE TO EQUIPMENT MANUFACTURERS, JOBBERS AND DISTRIBUTORS

Send for Bulletin 604A

COMBUSTION CONTROL CORPORATION

Flame Failure Safeguards fireye *Boiler Feedwater Controls*

77 BROADWAY, CAMBRIDGE 42, MASS.

Industry Eyes New England Fair Trade Practice Code

INTEREST within the industry is turning to concern over the proposed code of Fair Trade Practices now being considered for New England. Though nobody denies the right of New England dealers to such a code if they want one, the anxiety in the trade stems from the statement of Federal Trade Commission officials at the Boston hearing, September 30, that complaints of unfair trade practices outside the six-state area will be given the same consideration and treatment as complaints in the territory covered specifically by the code. Equipment manufacturers and dealers, as well as fueloil distributors, feel they may be subjected to rules that they had no voice in writing or amending.

About 200 members of the oilheating industry attended the preliminary hearing at Boston, September 30, when two officials of the Federal Trade Commission presided at a reading of the proposed code. The tentative draft had been prepared for Oil Heat Institute of New England, which sponsored the code, and through counsel, suggested minor amendments to its language.

Though the proposed rules write no new law, they do codify and bring together in one instrument rules contained in such acts as the Robinson-Patman Act, Clayton Act, and Sherman Anti-Trust law. On a complaint under the Fair Trade Practices Code the offender is given a hearing on the charges, and if found to be violating any rule in the code, the FTC issues a "cease and desist" order. If the offender continues the practice he has been ordered to cease and desist, he then may be hailed into court and punished.

Provisions of the proposed code apply to "the retail sale, installation, service or repair" of all oilheating equipment concerned with the generation of heat as well as fueloil. It does not cover the heat distributing system or other parts of the system. Rules cover the misuse of the word "free"; selling below cost; commercial bribery; use of loss leaders; discrimination; untruthful or misleading advertising; deception as to available supply of industry products; guarantees and warranties; coercing purchase of one industry product or service as a prerequisite to the purchase; lease or loan of other industry products or services; deception as to rebuilt or second-hand products, and defamation of competitors or disparagement of their products.

After Federal Trade Commission has an opportunity to approve, amend or rewrite the proposed code, it will be considered further at a public hearing in Washington. Time and place of that hearing will be announced at a later date.

"And don't think you can slip anything over on me, Smith. I used to be a little stinker, myself"

"Gurney, must you bring the office home with you every night?"

G. M. Report Analyzes Railroad Diesel Oil Demand

DEFENSE of the growing diesel oil demand by railroads for their new locomotives is presented in a report by the Electro-Motive Division and the Research Laboratories Division of General Motors Corporation, entitled "Fuel Oil for Diesel Locomotives." The report implies that use of distillate oils for home heating constitutes a poor use for petroleum, reducing "the liquid fuel reserves without any offsetting gain in efficiency," and complains that attacks on the increasing use of diesel oil are misleading.

As has been pointed out in these pages in the past, the total present demand for railroad diesel oil represented 1 per cent of total petroleum consumed in the country last year, and though the rate of increase is great, the total oil consumed is relatively small. It is stated that heavy fueloil for oilburning steam locomotives last year amounted to 265,000 barrels a day, and diesel fuel for all diesel-electric locomotives took only 52,000 barrels a day. Oilburning steam locomotives performed about 18 per cent of the work done on American railroads and diesel locomotives did about 19 per cent of the work. The remaining 63 per cent was done by coal burning and electric locomotives.

If all the work of American railroads were performed by diesel locomotives it would have required 256,000 barrels a day of diesel oil last year, or less than the heavy fueloil consumed by steam locomotives, according to the report. It should be noted that the report assumes no difference in the specifications of the two oil products.

It is pointed out in the report that, "If the miles per gallon of existing cars and trucks could be increased just one mile per gallon, the saving in gasoline consumption would amount to about 150,000 barrels per day. Slower driving speeds alone would provide this much economy. Diversion of 150,000 barrels per day of cracking stock to produce diesel fuel would provide three times the total 1947 railroad requirements.

"When hauled by diesel locomotives a loaded freight car weighing 40 tons, or more than 20 times the weight of the modern automobile, travels 16 miles per gallon of diesel oil at an average speed of 22 miles per hour."

Gas Men See Continuing Demand For Heating

GAS HEATING DEMAND will remain strong for ten years more, according to E. G. Boyer, manager of the gas department of the Philadelphia Electric Co., in a talk before the American Gas Association convention, October 4. He reported on a survey made by his company, indicating that increased gas rates do not seriously disturb the demand because they are merely following the trend of all fuel prices.

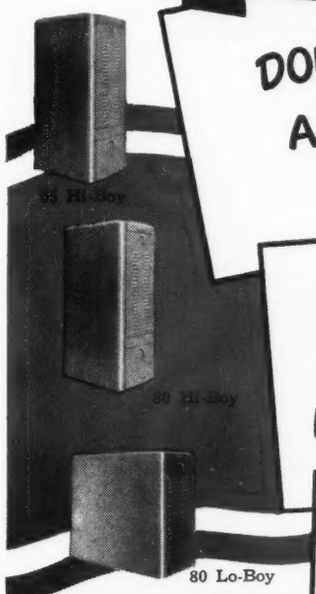
Chief reason for an expected strong

THERE'S A KO-Z-AIRE® FOR EVERY ONE!

DON'T MISS A SINGLE SALE

SATISFIED CUSTOMERS BUILD BUSINESS

KO-Z-AIRE IS A REAL PROFIT MAKER



KO-Z-AIRE®

CONDITIONED HEAT FOR ALL HOMES

Thousands of homes now enjoy Ko-Z-Aire Conditioned Comfort, but thousands more are still waiting to hear the Ko-Z-Aire story of clean, effortless heating. There's a Ko-Z-Aire for every size home.

JONES & BROWN, INC.

439 SIXTH AVENUE · PITTSBURGH 19, PA.

MAIL THIS COUPON TODAY!

Jones & Brown, Inc.
439 Sixth Avenue
Pittsburgh 19, Pa.

Yes, I want to know more about the *complete* KO-Z-AIRE line. Please send full details.

Name_____

Address_____

City_____ State_____

F

fueloil & oil heat

demand for gas heating is the new home construction which is expected to continue at a rapid rate, due to the backlog built up during the war, increased population and a trend toward fewer people in each household.

◈

Mass. Dept. of Education Conducts Burner Courses

CONTINUING a program inaugurated five years ago, the Department of Education of The Commonwealth of Massachusetts, has commenced a new program of oilburner courses for advanced students and beginners. An advanced course in oilburner operation and maintenance, consisting of 16 lessons, began at Gardner, Mass. on October 21, and similar courses started at Gardner, North Adams and Palmer, November 12. A beginning course got under way on November 9 at West Springfield at the Park Avenue School. Courses in other locations were held at the high schools in each town.

All of the courses are conducted by George H. Bork, president G. H. Bork Engineering Co., Holyoke, Mass., assisted by representatives of manufacturers of oilburners and accessory equipment. Courses cover such subjects as a survey of a burner and its parts, service analysis, fuel pumps, fueloil specifications, a control program, insulation, radiation, heat loss and supplying domestic hot water by tankless unit and storage supply.

"Now there's a guy with an eye for comfort!"

Veterans discharged not more than four years ago are enrolled free for the courses, upon presentation of honorable discharge papers at the time they register. Normal fees for each course total $10. Complete information and details are available from the University Extension Office, Department of Education, Springfield 3, Mass.

◈

Louis C. Vandertill has been named assistant advertising manager, Duo-Therm Div., Motor Wheel Corp., Lansing, Mich., serving under Karl Egeler. His background includes advertising and sales promotion work and a position as account executive for an advertising agency.

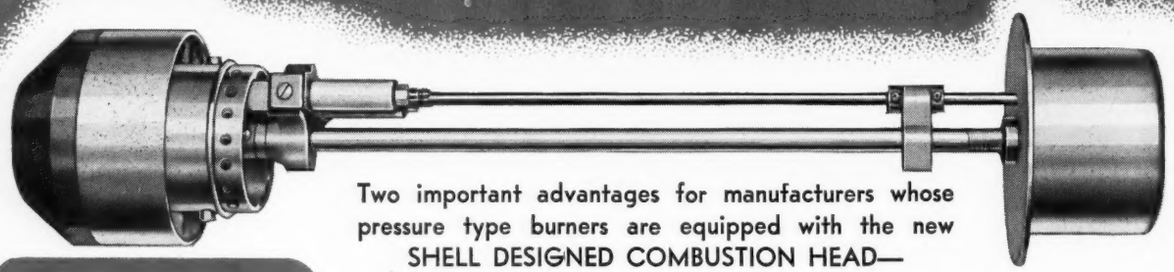
P. M. Potetti's promotion to the position of sales manager, Cyclotherm Corp., New York, N. Y., has been announced. He has served as assistant sales manager for several years. Guy B. Smith's promotion also is revealed to the position of assistant sales manager in charge of advertising and sales promotion.

John E. Dignam has been appointed to direct the training activities of the oilburner division, YMCA Trade & Technical School, New York 23, N. Y. A member of the staff of the school since 1946, he formerly was associated with Concord Oil Co. and the Able Burner Servicing Co., both Brooklyn, N. Y.

Now Available!

NEW COMBUSTION HEAD

DESIGNED AND PATENTED BY THE SHELL DEVELOPMENT CO.



Two important advantages for manufacturers whose pressure type burners are equipped with the new SHELL DESIGNED COMBUSTION HEAD—

1 Economy of fuel. Field tests indicate 20% and more oil saving. A CO_2 as high as 15% is obtainable with no smoke, even when using 100% catalytic fuel oil. The oil situation makes such economy a positive necessity, and the CUSTOMER SATISFACTION produced is a real SALES PROMOTER.

2 Replacement of obsolete, inefficient burners by burners equipped with the NEW SHELL DESIGNED COMBUSTION HEAD will be quickly paid for out of oil savings!

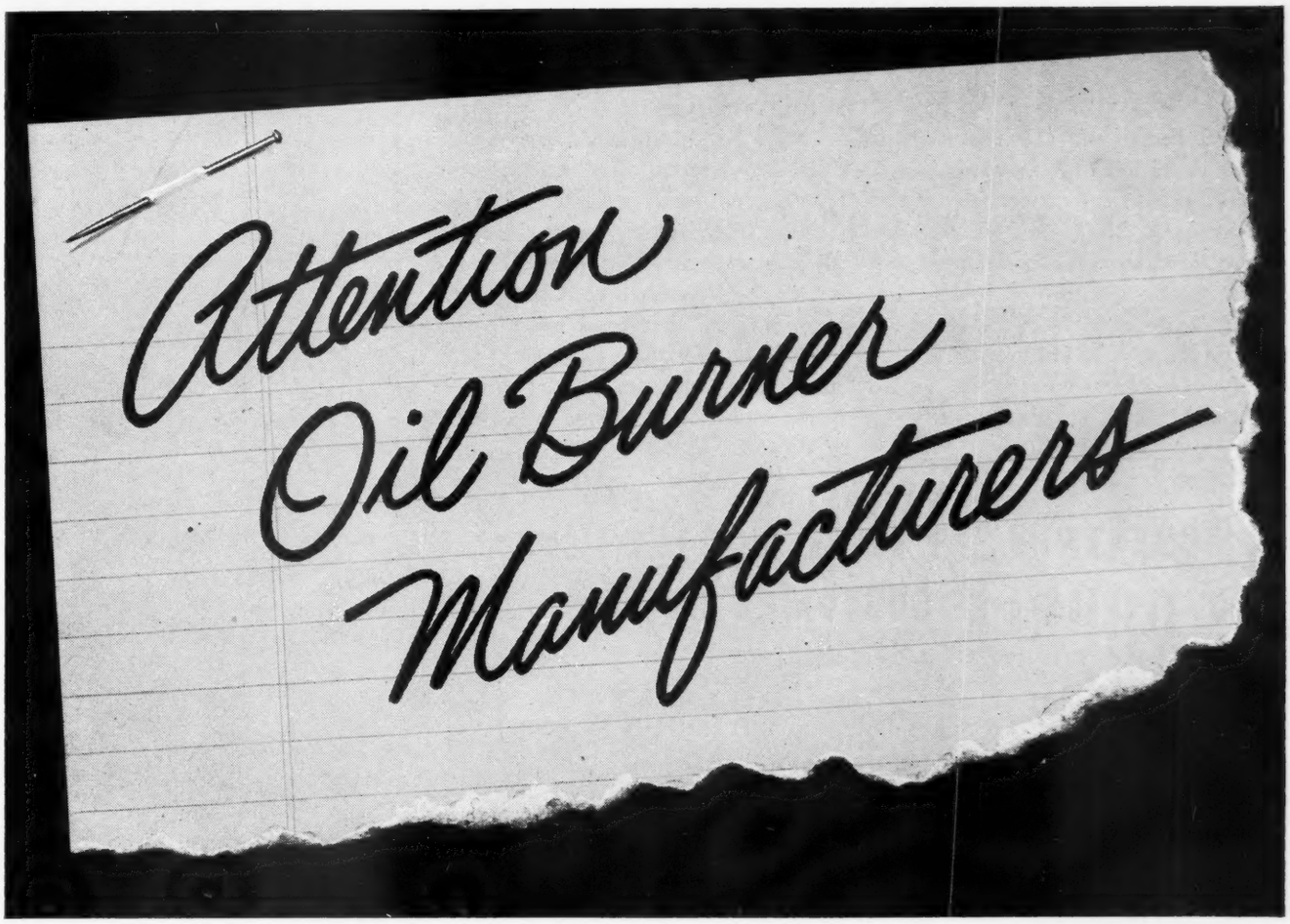
WE SOLICIT INQUIRIES FROM MANUFACTURERS OF OIL BURNERS

Manufactured by

MODERN DIE AND MACHINE COMPANY

166 PLEASANT STREET, BOSTON 25, MASS.

Under license from the Shell Development Company



In the interests of Fuel Oil Conservation . . .

The Shell-designed Combustion Head is now available to Oil Burner Manufacturers without royalty.

Three years ago an extensive field testing program was begun in co-operation with a selected group of oil burner manufacturers. Burners equipped with the Shell-designed combustion head were installed in all types of home-heating plants and fired under a wide variety of operating conditions. Accurate "before and after" fuel consumption records were kept in all cases.

Exceeds early promise. Originally, laboratory tests indicated fuel savings up to 20% were possible by use of the new design. Actually, after three seasons of impartial field testing, *savings are up to 36%,* with the *average* saving over 20%.

Operation has proved so satisfactory, and fuel savings so substantial, that as a fuel oil conservation measure it has been decided to make this development available without royalty to oil burner manufacturers.

The Shell-designed Combustion Head, an outstanding development of Shell's continuing research for better oil heating, gives exceptional efficiency without smoke or soot...on cracked or straight-run distillate fuels.

Oil burner manufacturers are invited to write for particulars on the Shell-designed Combustion Head.

SHELL OIL COMPANY, INCORPORATED
SHELL DEVELOPMENT COMPANY, INCORPORATED

SHELL

50 West 50th Street, New York 20, N. Y.

Everyday Snags

Two Outside Tanks

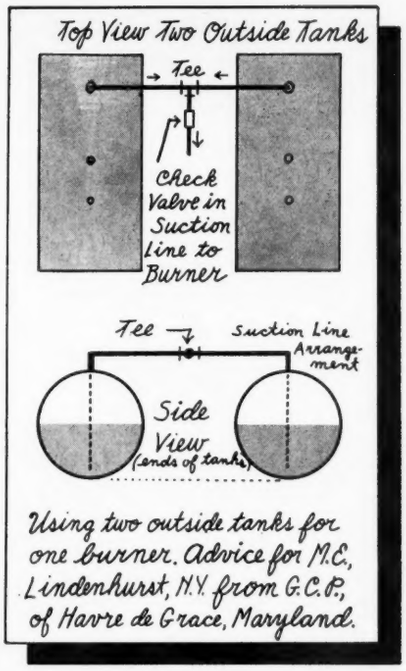
G. C. Pensell and J. L. Rhinehart of Havre de Grace, Md., forward the following instructions on connecting two outside tanks to one oilburner, after seeing the question on this subject sent in by M. E., Lindenhurst, N. Y., and published on page 114 of the July 1948 issue of FUELOIL & OIL HEAT.

Step 1—When burying the second tank make certain the bottoms of both tanks are at the same level.

Step 2—Have both suction line pipe studs the same distance from the bottoms of the tanks.

(Steps 1 and 2 are important because a ten-inch difference in either item, for example, will result in the burner's running out of oil when one of the tanks still contains ten inches of oil.)

Step 3—Connect both suction stubs together by a horizontal line. In this line, locate a tee to be connected to the suction line which runs to the burner. It works well to use ½" pipe throughout.



Using two outside tanks for one burner. Advice for M.E., Lindenhurst, N.Y. from G.C.P., of Havre de Grace, Maryland.

Step 4—After the suction line leaves the tee, install a check valve in the line to the burner, locating the check valve, of course, where it will be buried. Or if you prefer, locate this suction line check valve in the basement.

Step 5—Connect the suction line to the burner in the usual maner. Use a return line. With tanks of the same diameter, the return line from the burner can be connected to either tank, as the oil levels of both tanks will equalize automatically because of the siphoning action of the cross-connected suction line. But, and this is important, always connect the oilburner return line to the larger tank where the two tanks are of different diameters.

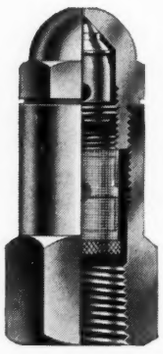
After using this method for hooking up two tanks, you need not worry about the amount of product in either tank. Should the levels of oil in the two tanks become different, for example when oil is delivered, an automatic siphoning action will take place at the end of each burner run and will equalize the levels of oil in both tanks.

If you want to experiment or convince yourself that this hookup will work, assemble a similar hookup in miniature by using two one-quart jars and some rubber hose to represent the suction line piping. With one jar full of water and the other half full, simulate the suction on the line which represents the suction line to the burner. After some water has been drawn from this suction line,

USE THESE TWIN PROTECTORS AND DOUBLE CUSTOMER SATISFACTION

EDCO FUEL OIL FILTER

EDCO Triple-Tested NOZZLE



Much of the oil burner inefficiency and trouble today results from the nozzle becoming clogged. Oil needs thorough filtering BEFORE it reaches the nozzle, especially when the burner is handling 1½ gallons or less per hour.

The newly designed EDCO Filter S-252 has such a large filter area it is ideal protection for oil burners, space heaters and water heaters using No. 1, 2 or 3 fuel oils. And as an added protection, the EDCO Nozzle has a large capacity Monel strainer to protect the orifice and slots from plugging.

The combination of EDCO Filter and Nozzle gives the protection customers need for a smooth running oil-burner—the protection YOU need for complete customer satisfaction.

STOCK UP TODAY on both the EDCO Filter and the EDCO Nozzle.

Filters are individually boxed 24 and 48 to a case. Nozzles too are packed for safety. Please give complete information about capacity, spray angle, quantity, etc.

EDCO

EDDINGTON METAL SPECIALTY CO.

P. O. BOX K, EDDINGTON, PENNA.

BURNED ONLY 5½ GALLONS...

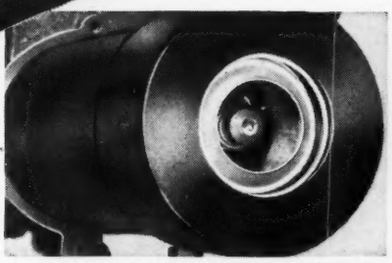
IN 24 HOURS... CUT FUEL CONSUMPTION TO LESS THAN 1/3

THE NEW WINKLER

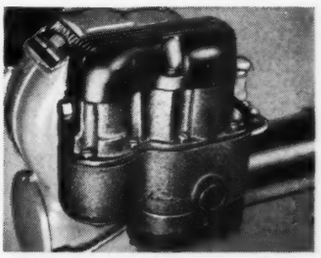
LP*

OIL BURNER

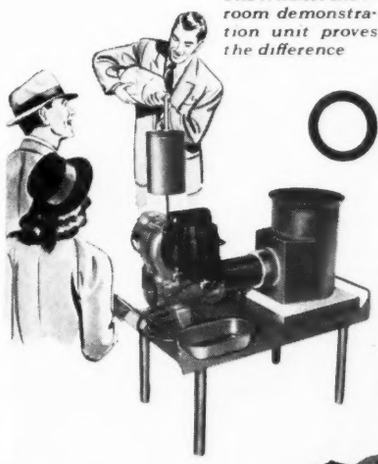
*LOW PRESSURE



Exclusive Winkler Flame Controller



Exclusive Winkler Metering Unit



The Winkler showroom demonstration unit proves the difference

Two facts will hit you when you read this! First, that the new Winkler LP* Oil Burner performs in a way never before witnessed. Second, that *you can sell this burner now* . . . to countless home owners fed up with the extravagant waste of conventional oil burners.

An Illinois dealer writes—

"Last October we installed a Winkler LP* in a Palatine, Ill., residence. At zero outdoor temperature, the old burner was burning 17½ gallons every 24 hours. Under the same conditions, the Winkler LP* burned only 5½ gallons in 24 hours.

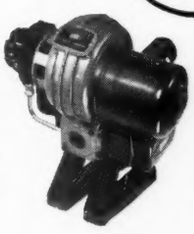
"We have installed seven Winkler LP* Burners up to the present time and have had no service calls."

Here's why the Winkler gives this miraculous kind of service. It can be made to burn *as little as ½ GPH*, avoiding over-sizing, the biggest single cause of excessive fuel consumption. The Winkler nozzle won't clog because its fuel passage is approximately 30 times larger than the opening in a high pressure nozzle . . . virtually no service required. And it burns low grade fuel oils with amazing efficiency.

Sensational Demonstration!

The Winkler LP* Demonstrating Unit enables you to prove—*right in your own showroom*—the amazing efficiency of this burner. Burns crank case drainings—catalytic oils—oil and water mixture—unrefined crudes. All without smoke or soot.

Get back in the oil burner business *now*—replace worn and inefficient burners with the fuel-saving Winkler LP*.



THE WINKLER

Econo-Flame

A radically improved design in high pressure burners. Features the Deflecto-Air principle—producing correct oil-air pattern for complete combustion. This burner gives hi-pressure operation at its best.

WINKLER

Automatic Heating Equipment

U. S. MACHINE CORPORATION, Dept. AV-37, Lebanon, Indiana

fuel oil & oil heat

pinch the line to simulate the action of the suction line check valve closing, and then watch the water levels of the two jars equalize.

The entire suction line piping must be absolutely free of air leaks, of course, since plainly a connecting line run over the tops of two tanks can give the needed siphoning action only if it stays full of oil. An air leak too slight to affect oil-burner operation can prevent siphoning action.

We have used this hookup many times successfully and now use it regularly. You can depend on it, therefore, for it's been tried and proved.

* * *

More On Two-Tank Jobs

Where two outside tanks are to be used for one burner and one of the tanks is considerably higher than the other, you can use a wall pump to transfer oil from the lower tank to the higher tank. Connected to only the higher tank, the burner will receive oil automatically until both tanks are empty.

Mount the wall pump inside the basement on the basement wall, and have it above the level of the top of the higher tank so that oil will flow from the wall pump through a line you install to the higher tank. With its input connection piped to a suction line stud in the lower tank, and its motor wired in parallel with the burner motor, every time the burner runs the wall pump motor will run and transfer oil from the lower tank to the higher tank. You must install a cross-connecting line between the tops of the two tanks, so that excessive oil pumped to the higher tank will overflow to the lower tank.

If the burner is of the pressure atomizing type, don't fail to provide it with a return line as well as a suction line, and don't fail to connect both these lines to only the higher tank. The oil from the burner return line should not flow to the lower tank.

Where the pipe runs involved are not longer than about 40 ft., ½" O.D. copper tubing is suitable for the two lines connected to the wall pump, the suction and return lines of the burner, and the overflow line which cross-connects the tops of the two tanks. For longer runs up to about 100 ft., use ¾" O.D. copper tubing.

Important: Provide a separate vent line for each of the storage tanks, as well as a separate fill line for each. Bear in mind that when the upper tank is filled to the top with oil, the cross-connecting line will give the same oil level over the top of the lower tank. That means the vent of the lower tank must be as high as the vent of the higher tank, the connections at the top of the lower tank must definitely be oil-tight, and oil must not pour out of the fill connection of the lower tank when this connection is opened after the higher tank has been filled to the top. One way out of difficulty on the last item is to have the fill caps of both tanks at nearly the same level. Don't have the fill cap of the lower tank below the level of the top of the higher tank.

As oil is used after both tanks have been filled, the lower tank will empty first since the wall pump does its best to transfer all the oil to the higher tank. Then the wall pump will stop by action

To clinch the sale, just say:

MADE BY BETHLEHEM

The Bethlehem **DYNATHERM**

is manufactured by the Bethlehem Foundry & Machine Company, a century-old institution known 'round the world for "The Best in Oil Heating—First." The Bethlehem DYNATHERM burns oil with a whirling flame whose action "scrubs" the utmost heating value from the fuel. The Bethlehem DYNATHERM is a thoroughly engineered and strikingly attractive "package"—as different from conventional boiler-burner assemblies as it is superior to them!

A few exclusive Bethlehem Dynatherm territory Franchises are still available. Wire or write immediately for full information.

THE BETHLEHEM FOUNDRY & MACHINE COMPANY
BETHLEHEM, PENNSYLVANIA

There is only ONE

Trade Mark Registered

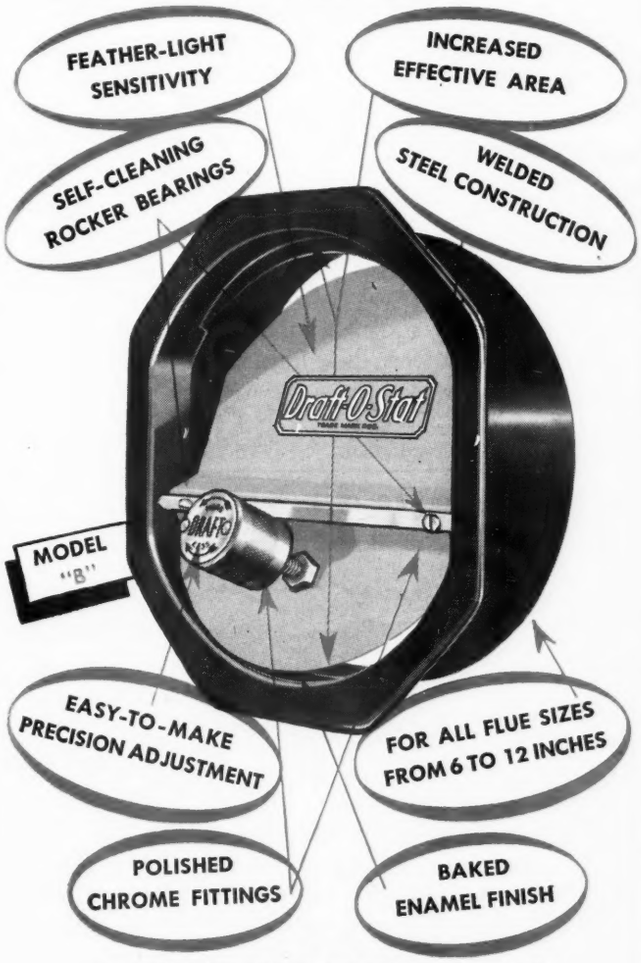
Draft-O-Stat

BAROMETRIC DRAFT CONTROL

—and HOTSTREAM makes it!

Draft-O-Stat has for many years been the standard barometric draft control mechanism for boilers, furnaces, oil burners and stokers. Hundreds of thousands of successful installations on domestic, commercial and industrial heating equipment have established its leadership in the field.

The Model "B" Draft-O-Stat with all-steel construction has been designed for greatest efficiency. It insures a steady, unchanging rate of draft in the chimney, providing maximum utilization of furnace heat. Top performance and long life is insured by the features shown below.



Model "A" Draft-O-Stat (original design) available in domestic sizes 14" to 20"; commercial sizes 16", 18", 20" and 24"; industrial sizes 24", 30" and 36".

INSIST ON Draft-O-Stat FOR BEST RESULTS ON EVERY HEATING INSTALLATION

The HOTSTREAM Heater Co.

2363 EAST 69th STREET • CLEVELAND, OHIO

Manufacturers of water heaters and draft controls

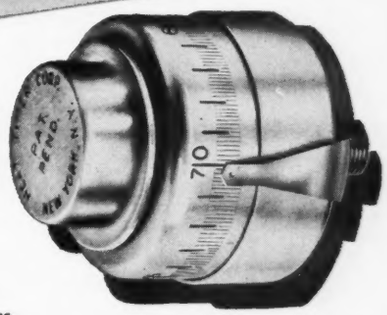
Here's a SURE Business Builder for You!

Heat Condition Any Room to the Temperature Wanted with—

HEAT-TIMER

The

NEW THERMOSTATIC RADIATOR AIR VALVE



Room Temperature AUTOMATICALLY Controls Size of Heating Orifice

REPLACE ORDINARY AIR VALVES WITH HEAT-TIMERS . . . just set indicator to temperature wanted in each room — HEAT-TIMER does the rest.

NOW!

ZONE CONTROL

$4.95 PER RADIATOR

List Price

High Cost of Fuel makes it EASY to CASH-IN on this timely Fast-Seller!

1. Every one-pipe system is a prospect.
2. Hundreds of thousands of radiators need the thermostat action of HEAT-TIMER valves.
3. HEAT-TIMER valves cut heating costs because no steam enters radiators when heat is not wanted.
4. Now you can sell truly automatic heat with HEAT-TIMER.
5. Every HEAT-TIMER installation recommends additional sales.

Think of it! Now you can guarantee a warmer bathroom . . . cooler bedroom, or any variation of heat in rooms throughout the house. All you need do is replace ordinary valves with . . . HEAT-TIMERS.

Whether it's coal, coke, oil or gas burning; hand or mechanically fired.

HEAT-TIMER is the answer to room temperature control.

Write for Prices and descriptive folder.

HEAT-TIMER CORPORATION

160 FIFTH AVENUE

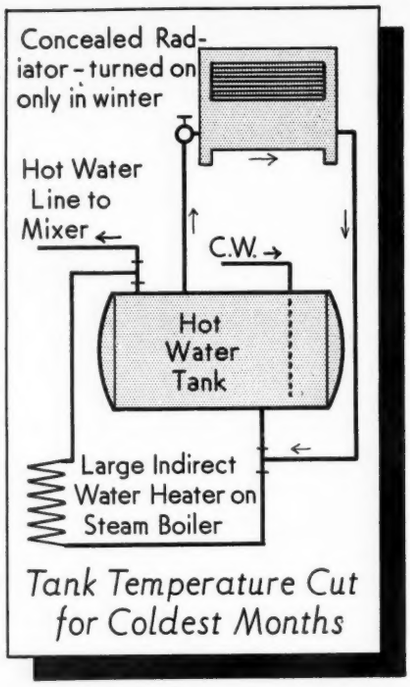
NEW YORK 10, N. Y.

of its out-of-oil control, and the burner will run on the oil in the higher tank. Because of this action, both tanks should be filled when oil is delivered, and the re-set device of the wall pump should be used after the oil has been delivered.

* * *

Hot Water Tank Overheats

A burner dealer takes pride in the low oil consumption for summer months of his summer-winter water heating lay-outs which feature tank temperature controls, good tank insulation, and over-size indirect water heaters. However, resultant overheating of the storage tanks in winter is a problem, and he has been using water mixing valves and devious other ideas to provide a solution. On one installation, to cool the hot water storage tank in winter and avoid rusty water and shortened life of the tank, he has connected a concealed radiator to the hot water tank. The radiator valve closes dead-tight and is turned on only in winter. Suitable for city water pressure, of course, the radiator has a non-ferrous core to avoid rusting. The


Concealed Radiator – turned on only in winter
Hot Water Line to Mixer
C.W.
Hot Water Tank
Large Indirect Water Heater on Steam Boiler
Tank Temperature Cut for Coldest Months

idea has worked out well and will be used by the dealer for some garages, warehouses, and commercial buildings in which fuel can be saved by heating an office or rest room during mildly cold weather without heating the main parts of the buildings and without generating steam with the heating boiler. Where the radiators are not considerably above the hot water tanks, circulators will be used to force the hot water through.

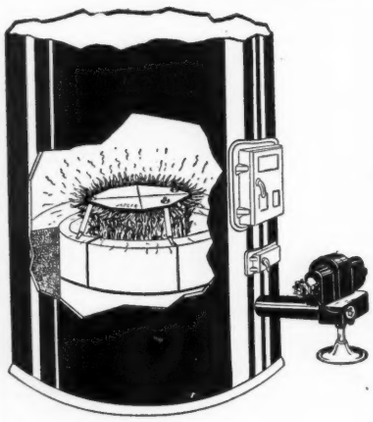
* * *

Mixing Valve Trouble

The owner of a plumbing and heating supply house added a mixing valve to his tankless water heater installation to end chances of getting scalded in winter by the first few quarts of water from a hot water faucet. The valve seemed to perform short of perfectly, but for two years this was tolerated since, after all, at times of misbehavior the hot water wasn't too hot; it was too cool, which was on the safe side.

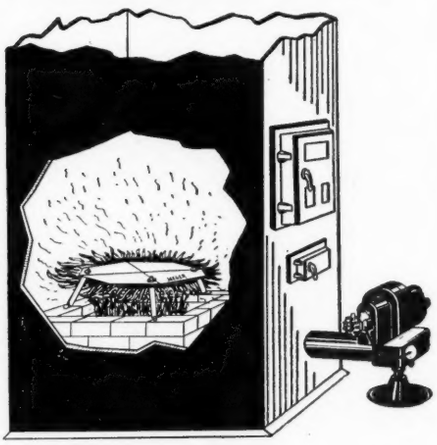
Finally, however, his patience ended or his curiosity aroused, the supply house man uncoupled and took apart the mixing valve. He found a good-sized piece of solder lodged in it in such a way as to prevent the cold-water port of the automatic valve from closing tight. Since then he's learned the luxury of close temperature control for the hot water.

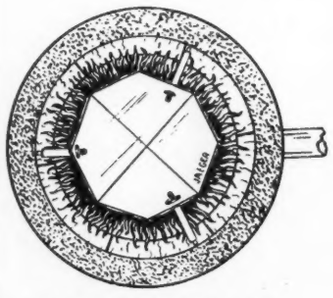
JAEGER FLAME SPREADER

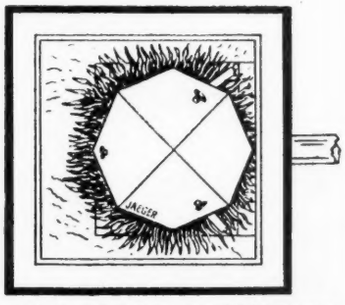


Some of the advantages of the
JAEGER FLAME SPREADER:

- Light weight • Will not creep in furnace
- Octagon crimped shape • 12" across flats
- 16 gauge material • Legs 7" in length
- Easy to install — approximately 20 seconds
- Heats instantly for good combustion, higher CO_2
- No parts to assemble in furnace
- Suitable for most boilers
- Gains flue travel
- Cuts stack temperatures • Cools instantly
- Prevents nozzle burning from radiant heat
- Diverts hot gases lower to furnace side walls
- Special length legs and special size crimp shapes quoted upon request
- Installations are saving up to 30% on oil consumption







Sole Manufacturer:

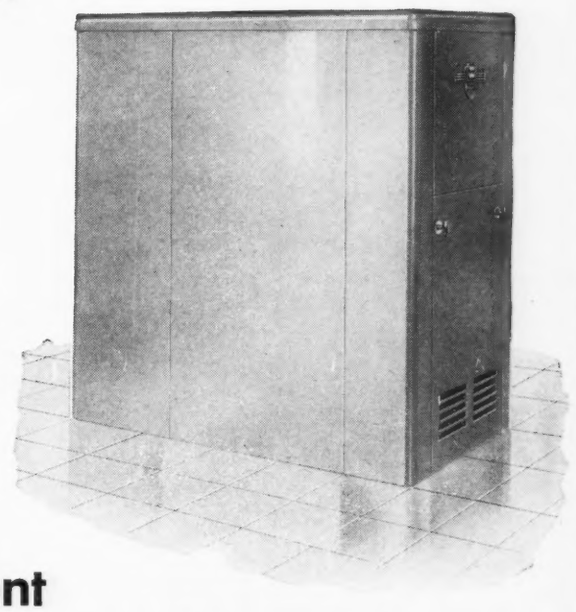
H. W. STARK & COMPANY

5668 GEDDES ROAD **R-2, ANN ARBOR, MICHIGAN**

Another Waterbury "First"!

For More Customer Comfort and Satisfaction—

For More Dealer SALES and PROFITS!



It's GRADUAL CONTROL of Blower Speeds

Now Standard Equipment on All Waterbury Air Conditioners* —

THE MASTER BLOWERTROL

After Extensive tests by our Engineering Department we are convinced that the Master Blowertrol is the best means of achieving TRUE continuous blower operation. From a cold start it expels the cool air from the ducts so gently that the occupants of the rooms are not aware of any draft. It gradually builds up speed until the thermostat is satisfied and then decreases until just a light movement of warm air is coming from the registers. With the new Blowertrol equipped Waterburys, stratification and "cold 70" are things of the past.

Now there's an added reason for saying—

"It's What's Under the Casing that Counts"

*With a Blower Motor of ½ h. p. or Less.

THE WATERMAN-WATERBURY COMPANY

1171 Jackson St. N. E., Minneapolis, Minn.

Reader's Problems

Q. Your equivalence to a service man's Emily Post prompts me to inquire on proper conduct and procedure in a matter which has me in a quandary. I installed a new 2 gph firebox in a tubular boiler designed for oil, tested combustion and found 560° stack temperature and 12% CO_2, or 82% efficiency by a chart. Without changing any burner adjustments I added a corbel of two insulating firebrick atop the target wall and obtained readings of 400° stack temperature and 10% CO_2, or 84% efficiency by the chart.

My problem is: Shall I take out the corbel and get higher CO_2 with lower efficiency, or leave the corbel as-is and get higher efficiency with lower CO_2? Seems to me according to the above test data the CO_2 and efficiency are not always on speaking terms.

M.F., Chicago.

A. Personal opinion inevitably enters such cogitations as occupy you. You need both Lady Luck and Emily Post on your side to obtain the best in CO_2 and stack temperature readings on the same installation. We have greater fondness for the 400° stack temperature; it is so strikingly below the first reading of 560°, and your data show it accompanies a higher efficiency. We cannot understand why you obtain 10% CO_2 instead of 12% after adding a corbel which definitely makes a bow to better combustion (were you rude to your new CO_2 indicator or did you operate it improperly?) but the installation may operate in a more dependable manner when set for the lower CO_2. CO_2 and stack temperature readings are not on such good terms that everything you do to improve one improves the other. We must warn you not to be so sensitive that you feel affronted when the steps you take to cut the stack temperature 160° do not produce higher CO_2 than you had before.

* * *

Q. Attached is a diagram of a downdraft baffle, made of ¼" boiler plate and used in a hard-working rectangular boiler. The baffle saves so much oil, about 20% to 35% of that burned earlier, that the owner would not be without it. Also it has eliminated the need to clean the flues of soot, whereas earlier flue cleaning was needed three or four times a winter. The big rub is that this steel baffle gets so hot that it

NEW HEAVY DUTY TRI-ROTOR PUMP

For Aviation Refuelers

every part designed to give long, trouble-free service

The new Model 80-D heavy duty Tri-Rotor pump has been designed by Yale & Towne engineers for handling aviation gasoline, solvents and other non-lubricating materials. This was accomplished without changing the pumping principle which made TRI-ROTOR world famous for handling lubricants.

The following rugged construction features give the new TRI-ROTOR pump extra long life: special alloy shuttle, large axial bearing plus integral thrust bearing —(holds rotor in position against internal and external forces).

Furnished with Solid, By-Pass or Variable Head and with mechanical seal if desired (at extra cost). Immediate delivery on sizes 80 gpm (2 in.), 90 gpm (2½ in.) and 100 gpm (3 in.).

For further information and prices, write to The Yale & Towne Manufacturing Company, 213 Henry Street, Stamford, Conn.

Makers of the famous YALE lines of Locks, Hardware, Hoists and Industrial Trucks.

TRADE YALE MARK

ECONOMICAL ROTARY ACTION—PROTECTIVE PISTON ACTION —ONLY YALE GIVES YOU BOTH

NOW!

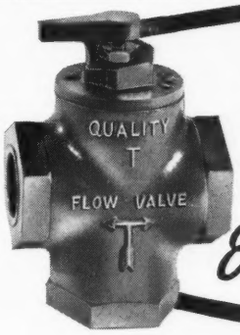
NO SWEAT
ADAPTERS NEEDED
direct sweat connections with copper tubing

AT No EXTRA COST

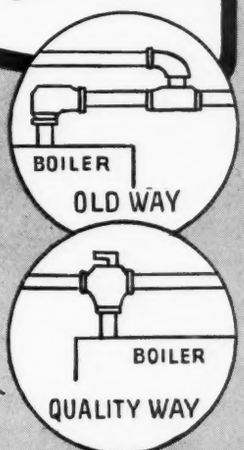
YES, you will be amazed at the savings in actual dollars and unnecessary labor that QUALITY's new "SWEATFLOW" will afford you. Specifically designed for direct "sweat" connections with copper tubing, the "SWEATFLOW" completely eliminates the need for sweat adapters. Constructed of all-bronze throughout. Available in sizes 1" and 1¼".

SWEAT-FLOW
BRONZE
CONTROL VALVE

- Precision tooled by master craftsmen.
- Most simplified valve on the market.
- Special, "easy-to-read" valve opener.



You Can Install
QUALITY "T" FLOW CONTROL VALVE
in One Easy Operation



Dollars ahead! Customer satisfaction! *Actual time-saving on the job!* That's what you get with the new QUALITY "T" FLOW, 2-DIRECTIONAL, CONTROL VALVE. One simple installation eliminates old style L's, T's, short lengths of pipe. Durably constructed for long life and trouble-free efficiency.

- T-Joint principle affords *direct*, uninterrupted 2-directional flow. Neater, more compact, more professional appearing job.
- Available in sizes 1", 1¼", 1½" and 2".

Quality valves easily obtainable through local jobbers

QUALITY SPECIALTY COMPANY, INC.
MANUFACTURERS
211 N. 2nd STREET • PHILA. 6, PA.

OIL
COASTAL
COMPANY

Petroleum Products

EXECUTIVE OFFICES
NEWARK, NEW JERSEY

burns out in two years. If when putting in a new baffle we make the back wall of the firebox higher and slope it over the fire in the way we show in our sketch (see solid black extension on back wall of combustion chamber), will there be less radiant heat on the steel baffle and will the baffle last perhaps ten years? In case you are wondering about this: we make such baffles in pieces to get them into the boilers, and bolt them together after they are in the boilers.

P. A. U., Cincinnati.

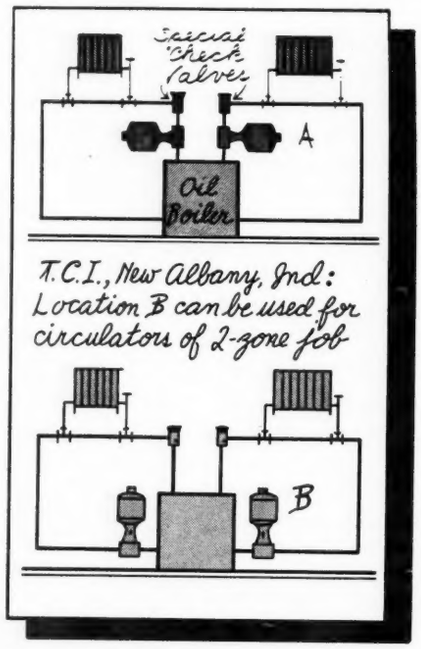
A. The change in the firebox will reduce the temperature of the steel downdraft baffle and will make a new baffle last longer, but probably will not give you the ten-year baffle life you are aiming at.

We suggest therefore that you consider using instead a baffle built of firebrick and of the type shown at the bottom of the accompanying diagram. Because the boiler is hard-fired, you'd better make the openings in the baffle as large as the openings in the crown-sheet of the boiler (the openings which serve as uptakes). We notice this is a wet-base boiler. A steel baffle of precisely the type you show could not be used for a dry-base boiler.

* * *

Q. The heating engineer's plans for a new building call for two circulators to be over the boiler under two flow-control valves, as location "A" in our drawing. Can location "B," which we prefer, be used equally well for the circulators, or would this cause the circulator on the right, for instance, to develop enough pressure in the boiler to open both of the flow-control valves?

T. C. I., New Albany, Ind.



A. Your "B" location is just as satisfactory in every way as the "A" location, and is the circulator location preferred by many in the heating industry. With the "B" location, only one of the special check valves will open when one of the circulators starts, for the circulator will draw water from, and circulate water through, only the radiators connected to its suction side.

◈

H. A. Malcom has become sales manager, Rusco Awning Div., F. C. Russell Co., Cleveland, Ohio. Prior to his appointment, Mr. Malcom had held important positions with Airtemp Div., Chrysler Corp., Westinghouse Electrical Supply and Frigidaire Div., General Motors.

REPEAT PROFITS

GENERAL FUEL OIL FILTERS WITH THE RED TOP FOR LARGE FURNACES OR BOILERS • HOT WATER HEATERS • SMALL FURNACES SPACE HEATERS

Model 1A-25. 4¾" High. 3½" Dia. Filter Unit Surface 31 Sq. In. ⅜" Pipe Openings.

Model 2A-700. 6¼" High. 4-5/16" Dia. Filter Unit Surface 72 Sq. In. ⅜" Pipe Openings.

Model 2A-300. 9-1/16" High. 5½" Dia. Filter Size 63 Cu. In. ⅜" Pipe Openings.

YEARLY DIVIDENDS

After making the original sale of a GENERAL FILTER, dealers make a dividend each year through the sale of replacement cartridges. The customer, of course, returns to the dealer who made the original installation —and installation is so simple that it can be made in less than two minutes. If you haven't already done so, investigate the profit possibilities of GENERAL FILTERS. See that each one of your customers has one.

WRITE FOR THE NAME OF YOUR NEAREST JOBBER

GENERAL FILTERS INCORPORATED

GENERAL FUEL OIL FILTER

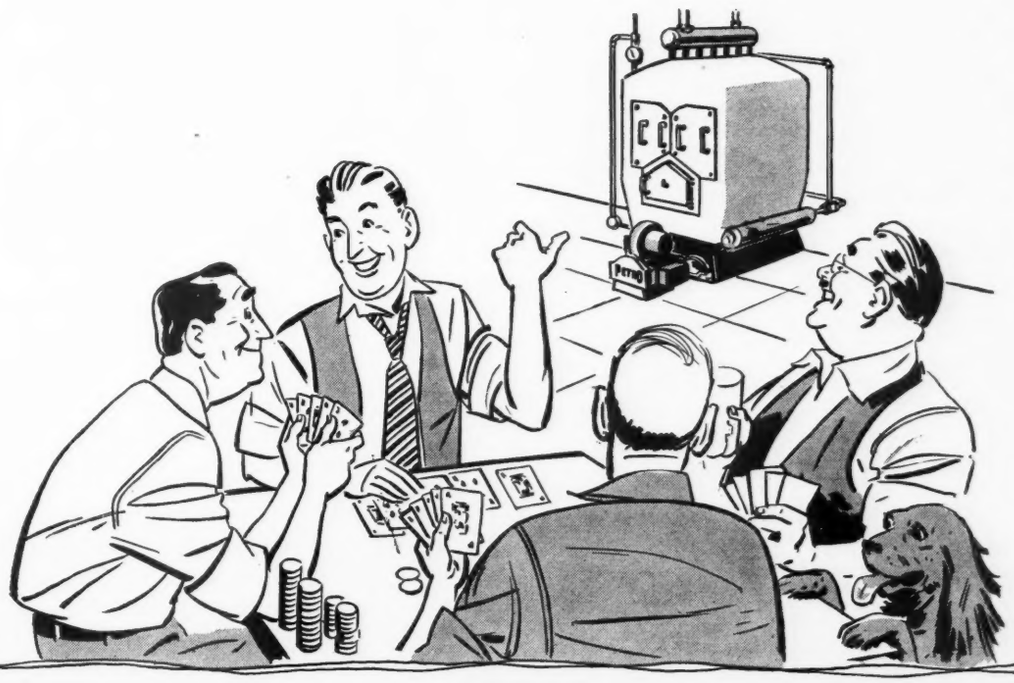
12890 WESTWOOD AVE. DETROIT 23, MICHIGAN

CANADIAN FACTORY BRANCH: GENERAL FILTERS CANADA, LTD., 173 STRACHAN AVE., TORONTO 3, ONTARIO

Another homeowner

"laying his cards on the table"

...tells his neighbors about YOU and the PETRO you sold him!



YES, STILL ANOTHER HOMEOWNER has discovered Petro always deals a "full house" of heating satisfaction. Nothing else can touch it in performance! Note how, in his pride of ownership, he talks about Petro year 'round reliability, about Petro luxuriant comfort on less fuel, and particularly about *you* and the *expert installation* you've given him.

No wonder a Petro becomes *your* winning hand for a bigger stake of neighborhood oil burner business!

Contact the established plumbing and heating jobber in your wholesale trading area today. Check the facts on Petro oil burners, boiler burner and furnace burner units, water heaters.

WHAT ELSE DO YOU GAIN WITH PETRO?

OUTSTANDING SELLING FEATURES, such as patented "Tubular Atomization" assuring your customer more heat from less fuel.

VIGOROUS PROMOTION THROUGH NATIONAL ADVERTISING, reaching every oil burner prospect in your territory... building up a preference for Petro and helping pre-sell *you* as a leading heating contractor in your community.

PRODUCT DEPENDABILITY, reflecting over 45 years' oil heat "know-how" of the world's oldest, largest exclusive oil-heat equipment maker.

PETROLEUM HEAT AND POWER COMPANY

Stamford, Connecticut

Makers of Good Oil Burning Equipment Since 1903

REFINERIES... FUEL OIL STORAGE AND DISTRIBUTION TERMINALS
NATIONWIDE OIL BURNER SALES AND SERVICE FACILITIES

PETRO

REG. U.S. PAT. OFF.

OIL BURNERS • BOILER-BURNER UNITS
FURNACE-BURNER UNITS • WATER HEATERS

fuel oil & oil heat

Manufacturers Activities

Toridheet Reopens Factory Training School

RESUMPTION of its factory school for training and instruction of Toridheet dealers and their installation and service personnel is revealed by Toridheet Div., Cleveland Steel Products Co., Cleveland 2, Ohio. The original school was discontinued during the war when the space it occupied was needed for war work. Facilities now are more complete and larger, with a new section set apart at the main plant and outfitted with new equipment. New classes start each week in groups of not more than ten, and consist of five full eight hour days, with a written examination given on the afternoon of the fifth day. Those who attain a passing grade in the test are given a certificate of graduation; those who fail are invited to return at a later date for further study and practice. D. W. Rouse, factory service engineer is chief

instructor, assisted by H. W. Hildebrandt, field service engineer and members of the heating engineering department. Fall courses terminate the week of November 28, to be resumed early in January 1949.

Induced by the large number of men who have come into Toridheet dealers' organizations in the past two years to re-establish the school, the company provides instruction on both live operating units and mock-up furnace and boiler combustion chambers. While emphasis is placed on proper installation, adjustment and assembly of all current models of burners and units, the tracing and correction of service problems is an important part of the course.

Fitzgibbons Names Chicago Sales and Service Outlet

THE APPOINTMENT of Fintube Products Co., Chicago, Ill., as sales and service representative in that area for Fitzgibbons Boiler Co., Inc., New York 17, N. Y., has been announced by Paul K. Addams, president of Fitzgibbons.

The Fintube Products Co. will handle the entire line of Fitzgibbons steel heating and power boilers and winter air conditioning units. Max May, president of Fintube, has been associated with the heating and air conditioning industry for the past twenty years. He is a member of the ASHVE and during the war served three years with the U. S. Navy.

Sinclair Refining Opens New Research Laboratories

OCTOBER 22 saw the opening of ultra modern research and development laboratories by the Sinclair Refining Co. at Harvey, Ill. The new center, erected at a cost of several million dollars, is the heart of the company's overall expansion program, and is designed to explore all phases of petroleum development, from production of oil from oil-shale and coal to the improvement of

REAL DEALER PROFIT!
CONSUMER SATISFACTION!
EASILY INSTALLED ON PREMISES!
NO MOVING PARTS OR ADJUSTMENTS!
FITS ANY GUN-TYPE BURNER!

Manufacturers of nationally known oil burners have adopted the Sanborn Combustion Head as standard equipment.

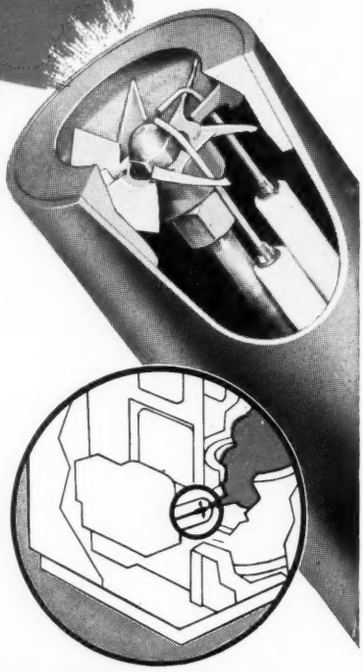
SANBORN COMBUSTION HEAD

SAVES UP TO 30% ON FUEL OIL
BURNS CATALYTIC FUEL OIL CLEANLY AND COMPLETELY

Scientifically and thoroughly mixes air with atomized oil . . . produces perfect carburetion and complete combustion, resulting in a hotter, more efficient fire.

- Raises CO^2 up to 14½%
- Reduces high stack temperatures
- Does not reduce burner capacity
- Raises fire box temperature 300 to 500 degrees

Manufacturer, distributor and dealer inquiries invited.



SANBORN SYSTEMS, INC.
Manufacturers
MILWAUKEE 11, WISCONSIN

"SCOTTY FIELD"

SUPER SALESMAN

FUEL ECONOMY STORY SELLS FIELD DRAFT CONTROLS FAST

DEALERS: For fast sales display your Field Barometric Draft Controls prominently. Their dramatic FUEL SAVING story makes them best-sellers, self-sellers!

A Field Barometric Draft Control improves the performance of any heating plant—provides for lower fuel consumption, increased safety, longer plant life. That's why dealers find it profitable and easy to sell the efficient, durable Field Barometric Draft Control. Write today for complete information on the Field Barometric Draft Control line.

On The Finest Heating Equipment Field Controls The Draft.

See our exhibit at the 9th International Heating and Ventilating Exposition, International Amphitheatre, Chicago, Jan. 24th to 28th. Exhibit No. 1221.

FIELD BAROMETRIC DRAFT CONTROLS

FIELD CONTROL DIVISION
H. D. CONKEY & COMPANY MENDOTA, ILLINOIS

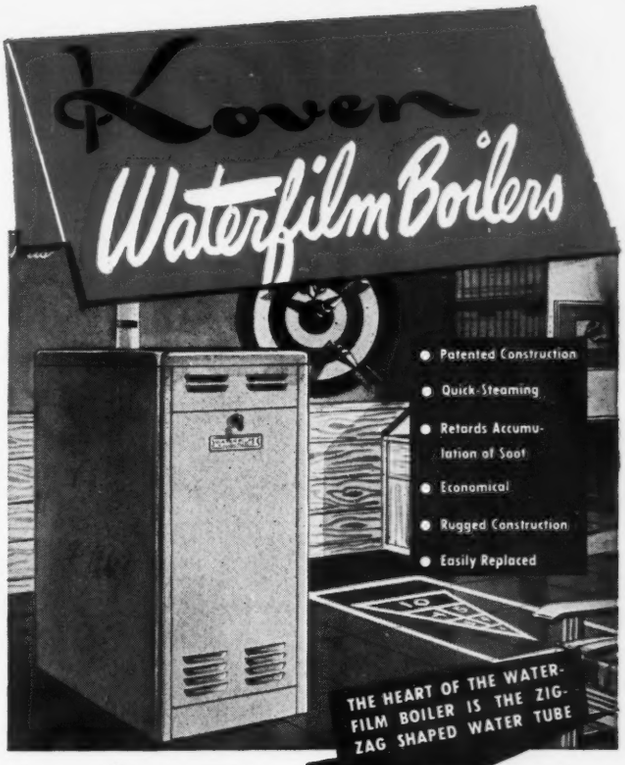
AFFILIATES: CONCO MATERIALS HANDLING DIVISION — CRANES—HOISTS

field REGISTERED

AFFILIATES: CONCO BUILDING PRODUCTS, INC. — BRICK—TILE—STONE

BAROMETRIC DRAFT CONTROLS

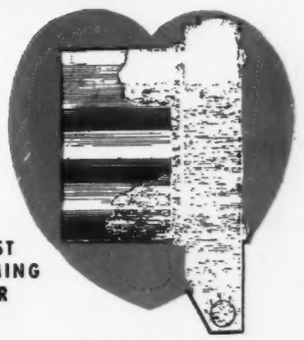
Koven Waterfilm Boilers



for

ECONOMICAL QUICK HEAT!

THE FASTEST STEAMING BOILER MADE



Your customer is sold on WATERFILM when you explain how its exclusive patented construction creates steam faster than any other boiler made. . . gives quick, dependable heat at a considerable saving of fuel. Maintaining even temperature in every room and supplying plenty of hot water at all times, WATERFILM is widely recommended by architects and builders.

Install these beautifully jacketed boilers in models and sizes for small homes, apartment houses and industrial plants. For larger installations, the Sectional Series can be taken through a 2-ft. door, assembled without alteration or rigging costs and is easily enlarged by adding sections.

500-17,850 E. D. R.

Write for free literature and newspaper mat service.

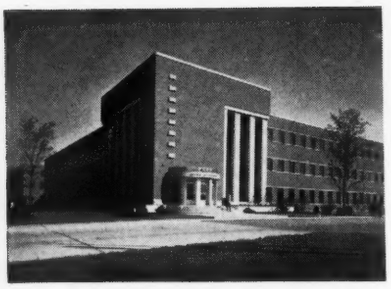
NATIONALLY ADVERTISED

WATERFILM BOILERS, Inc.

A Division of L. O. Koven & Bro., Inc.
154 Ogden Ave., Jersey City 7, N. J.

EVEN ROOM TEMPERATURE THROUGHOUT THE HOUSE!

FOR AUTOMATIC FIRING WITH OIL, STOKER OR GAS



lubricants, fuels and other petroleum derivatives.

There are nine buildings, providing 215,000 sq. ft. of floor space and covering 20 acres of a 38 acre site. Accommodating more than 400 scientific and administrative employees, the laboratories are approximately 22 miles from Chicago's Loop and 12 miles from the Sinclair Refinery at East Chicago, Ind. The buildings are spaced campus-like on landscaped grounds and were constructed by Austin Co. of steel and concrete, faced with red brick with coping bands of Indiana limestone.

A fuel application laboratory, housed in one of the nine buildings, tests developments of heating oils. In it has been installed all types of home oilheating units. The single story building, measuring 41 by 103 ft., contains also an amphitheatre, accommodating 500 people, to be used to instruct Sinclair representatives in the factors of operation and maintenance of oilburners.

BUTLER

...the Finest in

BASEMENT FUEL OIL TANKS

CLEAN • SAFE FUEL STORAGE

★ Prompt Delivery
★ Easy to Handle
★ 275 Gal. Capacity
★ 14-Gage Steel
★ Long-Life Construction

Butler Basement Fuel Oil Tanks are sturdily designed for quick, easy installation. The shape of the tank allows plenty of clearance for carrying through doors and down stairways. Easy handling is assured by Butler head-to-shell construction which provides grip room on each end of tank. Dished heads have broad, flat surface for efficient stacking and loading.

Each tank has welded-on lugs into which 1¼" pipe legs can be threaded. Dark green finish is painted on and dried in modern ovens to assure a hard smooth surface.

• • •

Send for illustrated folder with complete construction information on Butler Basement Fuel Oil Tanks. Mail coupon today.

BUTLER MANUFACTURING COMPANY

KANSAS CITY, MO.
GALESBURG, ILL. RICHMOND, CALIF. MINNEAPOLIS, MINN.

Address Inquiries to: 7317 East 13th St., Kansas City 3, Mo., or 917N Sixth Ave. S. E., Minneapolis 14, Minn.

Send illustrated folder with complete information on Butler Basement Fuel Oil Tanks.

NAME _____

ADDRESS _____

CITY _____ ZONE ____ STATE _____

Holtzer-Cabot To Close Plant November 15

ACQUISITION by Leland Co., Dayton, of the 75-year-old Holtzer-Cabot Div., First Industrial Corp., Boston 19, Mass., will cause the division to close its Jamaica Plain plant by November 15. Approximately five hundred persons were employed, according to Byron Hopkins, assistant to the president, and they are being laid off gradually. The company is hopeful that many will follow company officials and the plant's physical equipment being shipped to Dayton.

Strong competition in the East and concentration of the company's customers in the Mid-West were advanced as contributing factors in the move.

Timken Sales Contest Ending November 15

WINNERS in the current Timken Silent Automatic Sellebration Contest, which started March 1 and ends November 15, will have a choice of a winter vacation on the Mississippi Gulf Coast or of numerous merchandise prizes. Sponsored by the Timken Silent Automatic Div., Timken-Detroit Axle Co., Jackson, Mich., competition was open to all dealers, distributors and salesmen of the company's oil and coal heating equipment. Awards, evaluated on a point system, reward extra sales achivement during the contest period.

Winners choosing the vacation award will spend six days, December 12-18, at the Edgewater Gulf Hotel, Edgewater, Miss. and merchandise winners will have a selection of household appliances, furniture and other items.

N. Y. State Distributor Appointed By Sampsel Controls

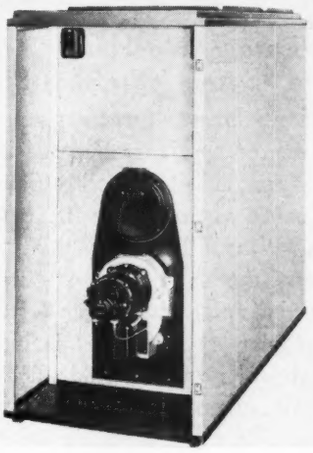
APPOINTMENT of Mercury Sales, Syracuse, N. Y., as sales representative for its line of automatic heating equipment controls has been announced by D. C. Wellcome, sales manager, Sampsel Time Control, Spring Valley, Ill.

The firm will represent Sampsel in

MONCRIEF'S

NEW Plate-Mounted OIL BURNING UNIT

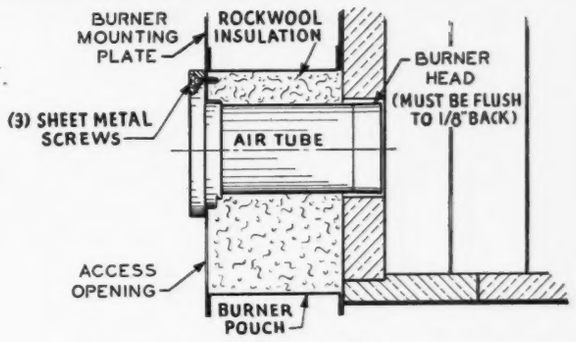
Mounting the Burner



Burner Installed

OUTSTANDING IN

- Design Features
- Construction Features
- Installation Features
- Servicing Features



Firepot—Airtube Installation

Now it's here, the oil burner that the average furnace man can install by following a few simple instructions — the oil burner that is so quiet and vibrationless that you can stand a coin edgewise on it and the coin won't fall off.

. . . You install the Firebox and air tube in the combustion chamber before mounting the burner to the Burner Mounting Plate—

. . . You use only 3 sheet metal screws to fasten the air tube to the Burner Mounting Plate —you remove the burner without disturbing the firebox—

. . . You can't mount it wrong. The 4 heavy studs in the Burner Mounting Plate positively position the burner chassis and hold it securely in place as illustrated above.

. . . You get satisfaction in noiseless, vibrationless long-lived operation which is assured because the motor, pump and fan are a dynamically balanced unit.

. . . You get clean—efficient—quiet combustion even with the heaviest domestic heating oils.

. . . You find that the complete nozzle-line-electrode assembly is easily inspected or removed through the hinged transformer—in fact all operating parts are located outside the heating unit, for easy servicing and inspection.

THE HENRY FURNACE COMPANY

Medina, Ohio

HEATING AND AIR CONDITIONING UNITS — MONCRIEF SINCE 1895 — FURNACE PIPE AND FITTINGS

fueloil & oil heat

the entire state of New York, with the exception of the metropolitan New York City area. Principals at Mercury are W. F. Hirsch and R. J. Milholland. Mercury Sales specializes in representing manufacturers of heating, plumbing and allied lines and serves as a wholesale outlet.

Sid Harvey Names Jobber Distributors

IMPLEMENTING the program of distribution through jobbers announced last month, Winthrop A. Mandell, manager, wholesale department, Sid Harvey, Inc., Valley Stream, N. Y., has appointed fourteen firms to act as distributors for new and rebuilt Harvey products.

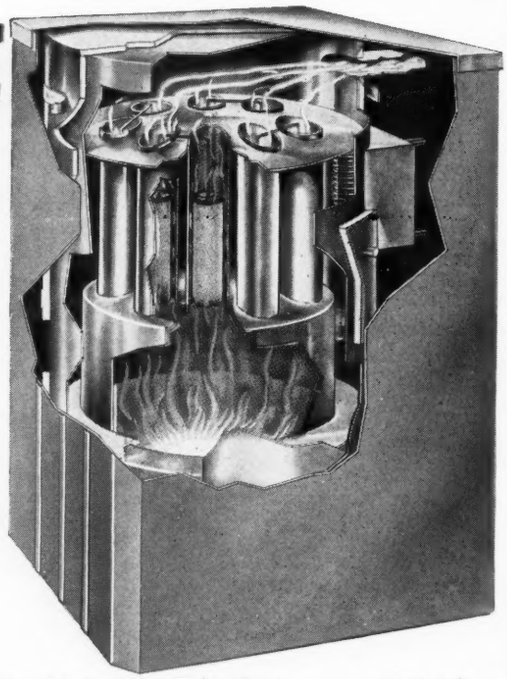
In New York State the following nine firms were appointed: Mendel Sussman, White Plains; Eastern Supply Co., Mt. Vernon; A. Alport & Son, Inc., South Fallsburg; Blackman-Hoffman Co., Lynbrook; Babylon Plbg. & Htg. Supply Corp., Babylon; J. J. Mead Co., Sayville; Ben Goldin, Westbury; Mead Plbg. & Supply Co., Medford; Miller & Co., Huntington Station. Other outlets named are: Refrigeration Supply Co., Richmond, Va.; Baker-Mitchell Co., Charlotte, N. C.; Jaeger's Sales & Supplies, Trenton, N. J.; Oil Equipment Mfg. Corp., New Haven, Conn., and Corcoran Supply Co. of Brockton, Inc., Brockton, Mass.

The Sid Harvey stores now being operated at twelve locations in the East will continue their present functions and serve also as pick-up points for distributors.

New Sales-Making Features!

ACME DUAL "8"

High Efficiency BOILER - BURNER UNIT



NEW Engineered Stainless Steel Intensifier Tube Design . . . *NEW* utilization of gases, which commonly escape in chimney heat . . . *NEW* uniformity of heat throughout full length of tubes . . . *NEW* high speed in heating . . . *NEW* low in fuel consumption. The ideal combination for the organization that seeks practical new features and sales-making talking points.

Beautiful streamlined green cabinet with chrome trim; top covers easily removed; tankless water heater; removable type, 240 G.P.H. Hi-pressure boiler flues; blanket rockwool insulation. Pre-cast combustion chamber. All accessories conveniently located.

WRITE FOR INFORMATION ON EXCLUSIVE TERRITORIES

A few desirable territories are still open to organizations familiar with oil heat selling. Complete literature will be forwarded on request.

ACME TANK AND WELDING

Div. the United Tool & Die Company

1031 New Britain Avenue

Elmwood (Hartford), Conn.

Autopulse To Make Teesdale T.U.X. Pump

AUTOPULSE CORP., Ludington, Mich., has purchased the wall pump division of the Teesdale Mfg. Co., Grand Rapids, Mich. Temporarily, the Teesdale pump will be manufactured at Grand Rapids, but all operations will be transferred to Ludington by the first of the year.

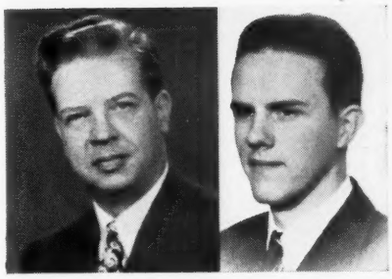
With this addition, Autopulse is in a position to supply pumps for all pot type, rotary and range burners, including those supplied by fueloil tanks below burner level. The Teesdale unit has a maximum capacity of 30 gph on a minimum lift.

Henry Furnace Booklet On "Surefit" Furnace Pipe

MONCRIEF "SUREFIT" furnace pipe and fittings, offered by Henry Furnace Co., Medina, Ohio, are the subject of a new, up-to-date 16-page booklet just issued by the company. Illustrations and various sizes of the broad range of gravity and forced air pipe and fittings in stock and in regular production are included in the two-color catalog. "Surefit" fittings are die-stamped and machine made at the Medina factory, the home also of Moncrief heating and air conditioning equipment.

General Controls Adds Two Factory Branches

ESTABLISHMENT of two new branch offices has been announced by General Controls, Glendale, Cal., at St. Louis and Oklahoma City. B. L. Lerch, who has been named manager of the St. Louis office, will supervise activities in the eastern half of Missouri, southern Illinois, southwestern Indiana, western Tennessee, northeastern Arkansas and northern Mississippi. Mr. Lerch joined General Controls a little more than a year ago as manager of its Dallas office.



Lerch Shaddox

He formerly was with the Mercoid Corp. for ten years.

O. D. Shaddox, appointed manager of the Oklahoma City office on July 1, joined General in December, 1945 as sales engineer at the Kansas City factory branch. His office is serving Oklahoma and all but the northeastern part of Arkansas.

The two new offices bring to seventeen the total of factory branches operated throughout the country. Distributors in principal cities also handle General Controls' line of automatic pressure, temperature, level and flow controls.

Evans Names Boston Manufacturers Agent

APPOINTMENT of Asquith Associates, Boston, to supervise sales in the city for Evans Products Co., Plymouth, Mich. has been announced by Georges Faurie, sales manager of the company's Heat Division. The complete line of Evans oilfired packaged units, heaters and conversion oilburner will be sold under the direction of Bennett Asquith, sales manager, New England Division. He has been handling New England sales for a line of television receivers, has managed public relations in the area and has been active in sales and sales promotion of air conditioning and heating equipment for several years.

The Evans line will be sold from the Boston showrooms of the organization, with a five man crew handling sales, detail work and dealer promotions. Distribution is contemplated through key plumbing and heating distributors. The Asquith company will indoctrinate dealer groups as part of its sales promotion plans.

Modern Heat & Fuel To Build Water Terminal, Storage Plant

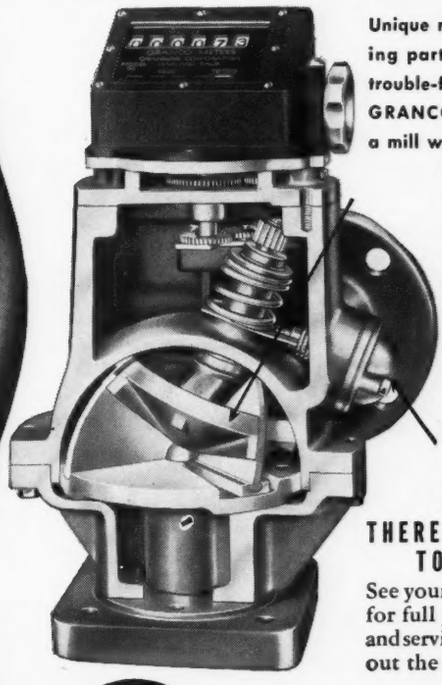
WORK on a new water terminal and fueloil storage plant to be erected by Modern Heat & Fuel Co., Philadelphia,

HOW TO MAKE UP YOUR MIND ABOUT METERS

Naturally, you want a meter so nearly perfect you can put it on the job and forget it. Here are the features an outstanding meter should give you:

TROUBLE-FREE OPERATION . . . . . ☑ Granco
FAST DELIVERY . . . . . ☑ Granco
GUARANTEED ACCURACY . . . . . ☑ Granco
LONG SERVICE . . . . . ☑ Granco
LOW INITIAL and MAINTENANCE COST . . ☑ Granco
ACCURATE PERFORMANCE at all VISCOSITIES ☑ Granco
QUICK, EASY CALIBRATION . . . . . ☑ Granco

ONLY GRANCO HAS THEM ALL!



Unique rotary action and fewer working parts give precise measurement, trouble-free operation and longer life. GRANCO Meter action is as simple as a mill wheel turning in a brook. Rotor turns directly in line of flow with friction-free "feather weight" action. No eccentric or reciprocating movements to interrupt the smooth flow of liquid, cause slippage or turbulence in the metering chamber. GRANCO Meters have an extremely low pressure drop. Easy, accurate calibration. Dial on outside of meter tells you how at first glance.

THERE'S A GRANCO METER TO FIT YOUR NEED

See your distributor, or write today for full particulars. GRANCO sales and service "at your service" throughout the nation.

Granco

GRANBERG CORPORATION
Oakland 8, California

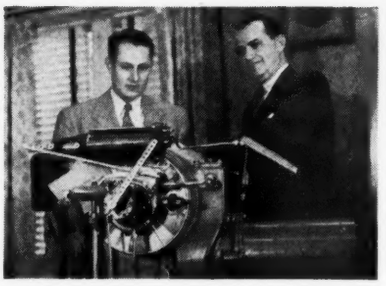
Also makers of Granco Rotary Positive Displacement Pumps

is expected to begin immediately, it was announced on October 4 by Harry D. Marks, president. It is the first plant of its kind to be built in Philadelphia since the war and when completed will be the largest independent plant on the Schuylkill River.

Providing a storage capacity in excess of two million gallons, the plant will be built on the east bank of the river at Peltz St. Deliveries to the water terminal will be made by barge, Mr. Marks pointed out, and the new installation, designed by Roy M. Henwood Associates, New York, "will enable us to give our customers complete assurance of an uninterrupted supply of fueloil."

N. Y. Hev-E-Oil Dealers Attend Two Sales Meetings

FIFTY-FIVE dealers attended the two day Hev-E-Oil Burner Engineering and Sales School, held in the Hotel New Yorker on September 30 and October 1. Sponsored by the Heavy-Oil-Burner Distributors, metropolitan New York distributor for Hev-E-Oil burners, made by Cleaver-Brooks Co., Milwaukee, Wis., dealers were invited from Manhattan, Bronx and Brooklyn and all parts of Long Island. Harold McCleery, chief engineer, Cleaver-Brooks, conducted talks and demonstrations on mechanical and engineering construction of the burner. Fred Feigenbaum, YMCA Trade and Technical School, New York, N. Y., addressed the dealers and H. W. Maxfield explained the operation of the Cleaver-Brooks steam-generator units. Other speakers were George Meder and George McCloud from the New York office of Minneapolis-Honeywell Regulator Co. Frank Wymbs of Heavy-Oil-Burner Distributors, delivered a talk at each session, on sales policies and potentialities.



Harold McCleery, *chief engineer, Cleaver-Brooks discusses the Hev-E-Oil burner with Frank M. Wymbs, right, New York distributor.*

During the school it was announced that Hev-E-Oil Burner Distributors of Manhattan has been appointed exclusive distributor in the borough of Manhattan and that Hev-E-Oil Burner Distributors of Brooklyn has added the Adams Coal Co. and Franco Engineering Co., both Brooklyn, N. Y., to its list of qualified dealers.

The area distributor, Heavy-Oil-Burner Distributors, maintains executive offices at 1775 Broadway, New York and a wholesale warehouse at 3d Ave. and Fordham Rd. Sales personnel consists of Frank M. Wymbs, assisted by Frank, Jr., Henry and Carlton Wymbs, and Milton Farrell. Miss Bernice Wymbs is secretary.

Norge Division Adds Sales Staff Personnel

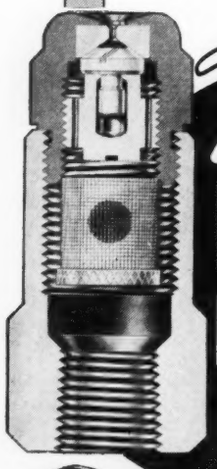
ADDITIONS to and changes in sales staff personnel, Norge Div., Borg-Warner Corp., Detroit, Mich., have been announced by H. L. Clary, director of sales. M. B. Robb, who formerly had been sales manager for Evans Products

WHY WASTE TIME

Trying to Clean Old Nozzles?

The nozzle is one of the first things you check when an oil burner is not operating properly.
If the nozzle is old, dirty or partially clogged, why try to clean it? It is next to impossible to get an old nozzle really clean, and they are easily damaged in the process. It is easier, more practical and more economical to install a new nozzle.

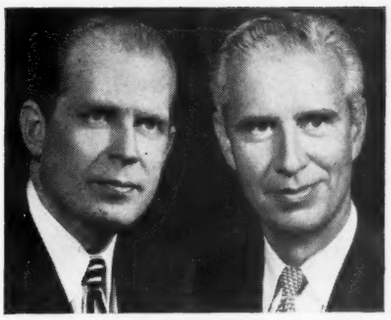
Always Specify Delavan



Balloffet Design NOZZLES by DELAVAN for DEPENDABLE, EFFICIENT PERFORMANCE

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

DELAVAN Engineering Co.
DES MOINES 9, IOWA



Wyatt Robb

Co., has been named home heater sales manager and J. Edward Wyatt, Jr., former executive vice president, Dearborn Stove Co., becomes contract sales manager.

Four district representatives also have been added to the field staff. They are: J. M. Dierkes, eastern territory, formerly with Krich-Radisco, Newark, N. J.; W. E. Laswell, southern territory, formerly regional sales manager, Nashua Mfg. Co.; B. H. Melton, midwest territory, formerly regional sales manager, Presteline div., Pressed Steel Car Co. and H. J. Hare, western territory, formerly assistant buyer, Bullock's department store.

Kam Announces Enlarged Production Facilities

FACILITIES for increased production of heating equipment have been announced by Kam Water Heater Mfg. Co., Inc., Brooklyn, N. Y. In its forty-second year the company now is offering a greater stock of tankless coils and heaters for immediate delivery.

Also available is a 12-page catalog with illustrations and data on the company's complete line. One page of the catalog features a comparison chart, showing types of coils that are interchangeable.

Jones & Brown Manual Outlines Comfort Factors

A TWELVE PAGE MANUAL, prepared by Jones & Brown, Inc., Pittsburgh, Pa., national distributors of Ko-Z-Aire conditioning units and RAC controls, represents a novel approach to heating equipment sales procedure. The manual outlines basic and fundamental requirements of modern warm air heating and illustrates the seven basic factors contributing to full comfort and health protection in the well-designed heating

CATALYTIC OIL IS TODAY'S OIL!

Catalytic oils cost less than non-catalytic oils, give more heat and are in the best supply. *But,* the catalytic oils are DIFFICULT to burn successfully in units not equipped to handle them.

Therefore, both sellers and buyers of oil heating units today must recognize the fact that *any unit not equipped to burn catalytic oil will cost more to operate and may cause considerable trouble if the owner does try to burn catalytic oil, in the interests of convenience or economy.*

EXCLUSIVE *H. C. LITTLE* "CATALYTIC HEAT CONTROL" NOW STANDARD EQUIPMENT ON ALL *H. C. LITTLE* UNITS

As a result, H. C. Little burners and furnaces operate on low cost catalytic furnace oil with:

1. IMPROVED PERFORMANCE
2. INCREASED CAPACITY
3. EFFICIENT COMBUSTION WITHOUT CARBON
4. SUBSTANTIAL FUEL SAVINGS

H. C. Little dealers can honestly tell *their* customers that all H. C. Little units are equipped to burn catalytic oil SUCCESSFULLY!

ALSO AVAILABLE FOR MODERNIZATION

H. C. Little dealers are offering the new Catalytic Heat Control for modernizing existing H. C. Little installations, making these marvelous fuel saving improvements available to *all* their H. C. Little customers.

H. C. Little Burner Company

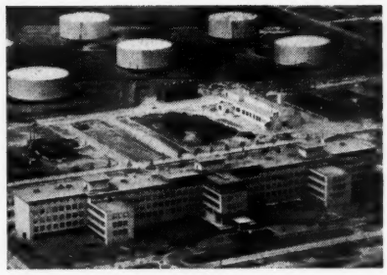
Dept. 11, SAN RAFAEL, CALIFORNIA
Branches in 18 Principal Cities

system. Released through the company's sales organization to its associated dealers and distributors, contents of the manual are the result of intensive research, with the material based on laboratory and field studies. The presentation concludes with a short demonstration on how Ko-Z-Aire units meet the seven basic requirements.

Commenting on the manual, C. J. Land, sales manager, explains that it is an attempt to educate the customer on what he should expect from a heating unit before he buys it, rather than to expose a buyer to the danger of obtaining a unit on the basis of appearance and price instead of performance. "Life Begins at 70°," title of the manual, was prepared with that purpose in mind and is written and illustrated along simple and fundamental lines.

Esso Research Center Opens On Oil Progress Day

FORMAL OPENING of Standard Oil Development Company's new research laboratories, the Esso Research Center, Linden, N. J., took place on October 14, Oil Progress Day. First unit to be completed in the program is the laboratory and office building, situated on a 40-acre site, bordering highway route U. S. 1.



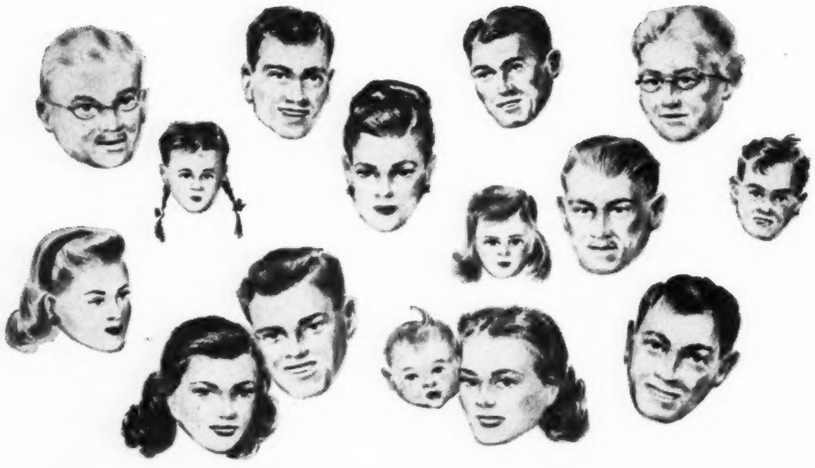
During the day's ceremonies, E. V. Murphree, president of the Development Co., described petroleum research's progress in the past thirty years. Guests, including 400 leaders in government, industry, science and education, toured the Research Center during the afternoon. Dr. Karl T. Compton, newly-appointed chairman, Research and Development Board of the U. S. National Military Establishment and retiring president, M.I.T., was principal dinner speaker.

The new building, constructed of brick around a steel frame, contains movable metal partitions, forming the laboratory and office side walls. With this arrangement each room can be altered in size to meet the requirements of the work being done in it. The entire building, consisting of a main wing 580 ft. long and 60 ft. wide, with three 70 by 42 ft. wings, is completely air conditioned to prevent accumulation of fumes and gases and contains the most modern safety devices. The building accommodates 80 separate laboratories, 250 offices and a comprehensive collection of technical information in its library. Seven hundred and fifty chemists, physicists, engineers and service department personnel will work in the Center.

The laboratories themselves are fully equipped for general research purposes, with all necessary services supplied from a central basement location and distributed through concealed pipes and wires. An auditorium seating 150 persons has specially-designed acoustical features and contains equipment for tape recordings of speeches and sliding wall panels, which uncover blackboard space.

Problems currently under active study, and to which the new facilities

Over a Quarter of a Million Families are Enjoying Solid Heating Comfort with **B&W FIREBOXES**



The heads of these families may not know much about the refractories in their oil burner fireboxes. But they *do* know that their dealers have provided them with solid heating comfort at low cost.

This record of customer satisfaction is a real convincer for the dealer who installs better fireboxes made of B&W Insulating Firebrick. Prospects become customers in a hurry when you show them the figures on thousands of installations where long performance has proved that B&W Fireboxes—

1. **Save fuel due to more efficient combustion**
2. **Minimize odor, soot and smoke**
3. **Assure smoother, quieter burning**
4. **Respond quickly to thermostat demands**

Have you received your copy of the B&W FIREBOX HANDBOOK? If not, send for it today. It is an informative guide to customer satisfaction—and more sales for you—through better firebox design.

R-297

B&W REFRACTORIES PRODUCTS

B&W 80 FIREBRICK • B&W JUNIOR FIREBRICK
B&W 50 GLASS TANK BLOCKS • B&W INSULATING FIREBRICK
B&W REFRACTORY CASTABLES, PLASTICS AND MORTARS

OTHER B&W PRODUCTS

Stationary & Marine Boilers and Component Equipment
Chemical Recovery Units... Seamless & Welded Tubes... Pulverizers
Fuel Burning Equipment... Pressure Vessels... Alloy Castings

BABCOCK & WILCOX

THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
GENERAL OFFICES: 85 LIBERTY ST., NEW YORK 6, N.Y.
WORKS: AUGUSTA, GA.

will contribute, are the conversion of natural gas and coal into liquid fuel, production of higher octane gasolines, new lubricants and projects in the chemical field, on extending the quality and use of plastics.

West Coast Representative Appointed By Delavan Eng.

W. A. ROBEN CO., Seattle, Wash., has been named as exclusive sales representative in the states of Washington, Oregon and California by Delavan Engineering Co., Des Moines, Ia. The company will handle the complete line of Delavan Balloffet design oilburner nozzles.

Twenty Climatrols Shipped to Tokyo

ILLUSTRATIVE of the wide use of its heating equipment, L. J. Mueller Furnace Co., Milwaukee, Wis., announced recently shipment of twenty Climatrol oilfired furnace units to Tokyo, Japan. The units are to be installed in a housing project for Northwest Airlines' personnel.

Winter air conditioning units shipped are type 209 highboy furnaces, featuring the "Roll-a-Drawer" in which the entire blower assembly is mounted. The drawer slides out on ball-bearing rollers making blower and motor accessible for servicing.

Peerless Foundry Completes Building

COMPLETION of an extensive building program, accomplished by Peerless Foundry Co., Indianapolis, Ind., permits substantial increases in both production and employment, according to Frank M. Mutz, president. All parts of the plant which had been damaged or destroyed by fire in 1945 have been restored and re-equipped. In addition, an entirely new foundry addition has been erected, where castings will be produced for Round Oak Co., Inc., Dowagiac, Mich., a new Peerless subsidiary acquired last year, and for the complete line of Peerless warm air furnaces.

Floor space available for production now totals 22,000 sq. ft., which company officials estimate will make it possible to raise the employment level to approximately 250 people and increase production substantially.

PROGRESS ON PARADE at the

Under Auspices of American Society of Heating & Ventilating Engineers.

Striking advances in oil heating equipment . . . the latest trends and practices of adapting it to all types of homes, commercial and public buildings, industrial plants, and institutions—a wealth of practical, business-building ideas—are in store for you here. Greatest display of its kind ever assembled, its informative, technically-staffed exhibits and demonstrations will afford unequalled opportunity to see and compare at one time many new and improved items from complete units to maintenance supplies—to discuss your specific interests, problems and requirements first-hand with engineering specialists.

Because of today's rapid pace of progress in this active field, no dealer, wholesaler, distributor, sales or service engineer serving this important field can afford to miss this outstanding display of progress. So plan now to attend—note the date.

MANAGEMENT INTERNATIONAL EXPOSITION COMPANY

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 20th.

Hilts Named Secretary, Atlantic Oil Conference

LIONEL JACOBS, president, Automatic Heat, Inc., Philadelphia and chairman, Atlantic Coast Oil Conference, Inc., New York 17, N. Y., anounced on October 20 that the board of directors has appointed Harry B. Hilts as secretary of the Conference. Mr. Hilts, executive secretary of Empire State Petroleum Association since 1941, will direct his efforts to expanding and strengthening the original ideals and objectives of the Conference, organized on behalf of the small independent oil businesses in seventeen eastern seaboard states.

Confirming the appointment, Mr. Hilts promised to work for the enactment of a program which will solidify and unite "the honest thinking and the best approach to many of the problems which confront the independent oil marketer at all levels of the petroleum industry." A prime objective will be to build up an efficient staff to establish an operating liaison among East Coast associations.

They're "Tops" for Oil Burner Ignition

A variety of sizes and mountings to meet all oil-burner needs. Standard types with voltages ranging from 5,000 to 14,000 volts. Also special high power factor types for low-capacity converters. Scientifically designed and painstakingly built to insure dependable service.

•

IMMEDIATE SHIPMENT OF STANDARD TYPES

•

DONGAN ELECTRIC MFG. CO.

2981 Franklin **Detroit 7, Mich.**

The Dongan Line Since Nineteen-Nine

Write for NEW CATALOG

DONGAN TRANSFORMERS

Announce Program For Warm Air Annual Convention

THE PROGRAM for the 35th Annual Convention of the National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio, has been virtually completed. The meeting, to be held December 9 and 10 at the Hotel Cleveland, Cleveland, Ohio, will feature an outstanding presentation of speakers, selected as authorities in their fields.

Tentative acceptance has been received from Senator Homer E. Capehart (R., Ind.), chairman, Sub-Committee on Trade Policies. He is slated to discuss latest developments in the basing-point system case and, perhaps, give some indication of what Senate action might be in face of the recent Supreme Court decision on the subject.

President Atlee Wise will keynote the convention sessions and introduce the speakers. Annual reports of committee activities will be rendered by the committee chairmen, including Research Advisory, Installation Codes, Technical Education committees. Guy A. Voorhees, application engineering director, is to detail dealer-training activities, sponsored by the Association during the past year and the part played by the wholesaler in the warm air heating industry will be reviewed by John E. Phillips, member of the group's Publicity and Merchandising Committee.

Recent research developments in the Association-sponsored program at the University of Illinois are to be revealed by R. W. Roose and Norman Buckley. Mr. Roose will discuss the results of ceiling panel heating versus conventional forced warm air heating in the research residence with an unheated basement. Mr. Buckley will deliver two papers, one to report on performance of the blower and resistance of the furnace when combined into a furnace-blower unit, the second on the balance of branch air quantities and air tempera-

IT PAYS

to recommend and install

Klemm
FUEL OIL FILTERS

Equipped with CHEMISTONE the original Controlled Porosity Element

MODEL FF 430

On every service call, make it a point to suggest a Klemm Fuel Oil Filter as the best way to insure an *uninterrupted* flow of oil to the burners. *It traps dirt, sediment, water and other foreign matter.* All your customers need this protection. Klemm Filters are low-priced, dependable and highly efficient. You profit on each sale *and eliminate the cause of many unnecessary emergency calls.*

There are other filters but none with *Chemistone!*

HERE'S WHY KLEMM CHEMISTONE FILTERS SELL FASTER

Streamlined . . . lots of eye appeal —a carefully designed filter that looks right with the finest installation.

Engineered . . . Scientifically engineered to give 100% filtration under all conditions. Easy to clean —no tools or wrenches needed.

Packaged Right . . . Put up in dealer cartons of 12 each or, assorted. Stocks easily . . . ships safely.

Priced Right . . . Superior in action, it's priced for quick sales. You'll find it doubly profitable to push Klemm filters.

NOW A CHOICE

MODELS FF 430G, FF 201G with glass bowls
MODELS FF 430*, 401* with metal bowls

*listed for reinspection with Underwriters Laboratories

Write today for full information!

Klemm
AUTOMOTIVE PRODUCTS COMPANY

1718 N. Damen Ave. **Chicago 47, Illinois**
Export Division: Guiterman Co., Inc., 35 S. William St., New York 4, N. Y.

How to Merchandise HUMIDITY THIS WINTER . . . and Make REAL Money!

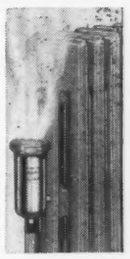
Maid-O'-Mist AUTO-VENTS $5.00 Each - RETAIL
(You Make 40%)

USE THIS ATTRACTIVE DISPLAY: AUTO-VENTS come to you 6 in this counter display carton. If you have a sales room, surprising how much business this display will account for; or put the carton in your window, or in some other place that gets lots of traffic.

Nationally Advertised *in Better Homes & Gardens and House Beautiful*

ORDER NOW to Meet Great Public Demand

Winter humidification at low cost—*that's what the public wants!*



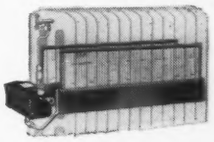
Showing Maid-O'-Mist AUTO - VENT installed on steam radiator.

Every low-pressure, gravity steam-heated home, apartment, office, etc., in your territory is a "red hot" prospect for Maid-O'-Mist AUTO-VENTS at only $5 each—*one on each radiator.*

The AUTO-VENT provides ample humidity for 2,000 cu. ft. space—entirely AUTOMATIC—no parts to need attention, rust or corrode. Also acts as *quick venting air valve.*

To install, merely remove air valve from each radiator and replace with AUTO-VENTS—few seconds' job.

With proper promotion, hundreds of AUTO-VENTS can be sold in your community this season. *Try them out!* If your jobber can't supply you, write us.



We also make Automatic Humidifiers for hot water radiators, $10 and $12 each retail—also Automatic Humidifiers for warm-air furnaces.

MAID-O-MIST INC.

AUTOMATIC HUMIDIFIERS

3221 N. PULASKI RD.
CHICAGO 41, ILLINOIS

tures when total air quantity is varied in a winter air conditioning system.

Two speakers have been engaged to talk on subjects related to sales and sales effort. Gene Flack, sales counsel and director of advertising, Sunshine Biscuits, Inc., in developing the topic, "The Time Is Now," will point out the urgent need for sales and promotion in the national distribution field. Hamilton Eames, Lincoln Publishers, Inc., speaking on behalf of the American Economic Foundation, will tell of "The Biggest Sales Job In All History."

Other speakers to appear during the sessions of the two day meeting will be Wilbur R. Meredith, Cleveland industrial consultant and assistant professor of engineering administration, Case Institute of Technology, who will discuss "The Taft-Hartley Act — A Year Later," recounting actual industrial experience under the act and data on "overtime-on-overtime"; R. A. Ellison, traffic manager, Service Bureau Co., Association traffic consultants, whose address will outline latest developments in uniform freight classification ratings.

"NEWTYPE"

A Good Hose on All Counts!

Easier to Carry Out

Off the reel and all the way to customer's connection . . . over steps or terraces; around corners . . . with progress unhindered by kinking or snagging.

Full, Fast Flow . . . Right Up To Nozzle

Unobstructed flow, even through reeled portion, at maximum capacity of rated I.D. of hose . . . the result of non-flattening construction and non-swelling tube.

Easier to Reel Up

Light weight, extreme flexibility and non-flattening feature make a quick, easy job of getting the hose back on the reel again.

TOUGH BROWN COVER

Highly resistant to abrasive wear. Provides lasting protection to hose carcass. Cuts hose replacement costs.

For Low-Cost Fuel Oil Deliveries

Contact Our Nearest Branch

GOODALL RUBBER COMPANY

GENERAL OFFICES, MILLS and EXPORT DIVISION, TRENTON, N. J.

Branches: Philadelphia • New York • Boston • Pittsburgh • Chicago • St. Paul • Los Angeles San Francisco • Seattle • Salt Lake City • Houston • Distributors in Other Principal Cities

Est. 1870

IPAA Names Officials For 1948-49 Terms

FRED SHIELDS, San Antonio, Texas, newly-elected president, Independent Petroleum Association of America, Tulsa 3, Okla., recently announced the election of John M. Lovejoy, Seaboard Oil Co. of Delaware, New York, N. Y. and Bayard T. Haskins, Ebenezer Oil Co., Inc., Wellsville, N. Y., to important posts in the association.

Mr. Lovejoy, re-elected vice president for eastern New York will serve for the 1948-49 year; Mr. Haskins, elected vice president for western New York also will serve for the current year.

Ex-officio members of IPAA's executive committee are Mr. Shields; Merle Becker, W. C. McBride, Inc., St. Louis, retiring president; Russell B. Brown, Washington, D. C., general counsel; C. E. Buchner, Tulsa, Okla., executive manager; H. B. Fell, Simpson-Fell Oil Co., Ardmore, Okla., executive vice president; D. R. Snow, Barnsdall Oil Corp., Tulsa, Okla., newly-elected treasurer.

MOHA Hears Talk On Earth Heat Systems

THE 156TH MONTHLY MEETING of the Massachusetts Oil Heating Association, Inc., Watertown 72, Mass., was held on October 21 at the Fox and Hounds Club, Boston. Professor E. N. Kemler, Director of Research, New York University College of Engineering, appeared as principal speaker and delivered a comprehensive discourse on the "Design of Earth Heat Source Systems."

Prior to the dinner-meeting, President Al Coop convened all association committee chairmen and members to discuss the program planned for the balance of the year. Honorary Secretary-Treasurer Fred N. Beckwith rendered his usual monthly report.

Utica Oil Dealers Name New Directors

NEW DIRECTORS were elected at a meeting of the Fuel Oil Dealers Association of Oneida, Inc., held in the Hotel Utica, Utica, N. Y., September 9. Directors elected were John Whitney, Utica Oil Heating Co.; Edward Smith, Smith & Reilly Co.; W. R. Tidd, Mohawk Valley Fuels Co.; E. L. Collins, Acme Fuels, Inc.; John Chambers, Chambers Oil

Co., all Utica; Roy Swatling, Swatling & Peattie, Inc., Herkimer, and Everett Jones, W. W. Parry Co., Rome, N. Y. Mr. Smith, past president of the group, presided. A meeting is scheduled in the near future to elect a new slate of officers.

Action taken at the meeting resulted in the association adopting more stringent credit controls in line with recent Government decrees on the subject.

Fifth Home Show Planned In St. Louis

THE 1949 HOME SHOW of St. Louis will be staged February 12 to 20 in Kiel Auditorium, under the sponsorship of the Home Builders Association of Greater St. Louis. This will be the fifth home show in St. Louis and the third sponsored by the Association. H. J. Loosely, president, Home Show of St. Louis, Inc., has been named managing director; John M. Bogdanor is general chairman of the committee.

One of the features of the Show will be a display of model homes designed for *Better Homes and Gardens* magazine and a series of fully equipped room interiors. A lecture demonstration, "Ten Steps to Home Ownership," will cover such subjects as selection of the lot, legal details, planning, designing, furnishing and maintenance. Central theme of the exposition will be a lounge, reserved for exhibitors to discuss business matters with customers and prospects.

The Home Show was first held in St. Louis in 1939, suspended during the war and resumed in 1947, shortly after the Home Builders Association was organized. Increased interest and size prompted the incorporation of the Home Show of St. Louis on a permanent basis.

API Marketing Division Holds Chicago Meeting

THREE SPEAKERS of national renown led the program of the American Petroleum Institute's Division of Marketing group session held at the Stevens Hotel, Chicago on November 8. Principal speaker was Theodore O. Yntema, research director for the Committee for Economic Development who discussed "The Need for the Individual Business Man in the National Economy."

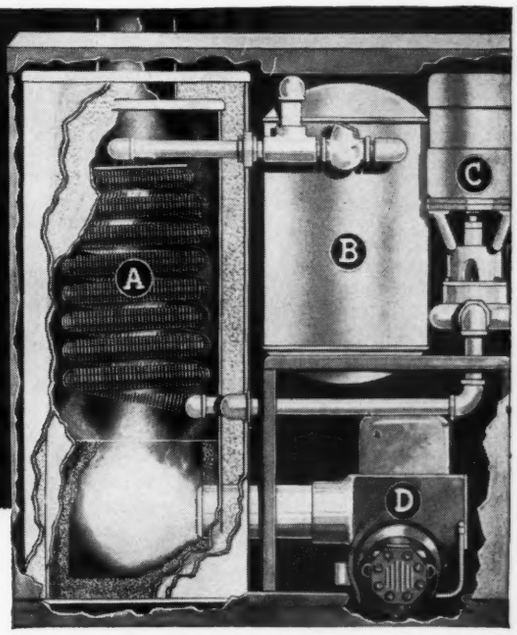
"Business Aids for Dealers and Jobbers" was the subject of an address by Charles H. Wible, midwestern representative for Edwin K. Williams Co., Los Angeles and the third paper presented to the session was delivered by John W. Boatwright, general manager, distribution economics, Standard Oil Co. (Indiana), whose subject covered "The Current Supply Position."

Announce Schedule For 1949 Indoor Comfort Conferences

A SCHEDULE of Indoor Comfort Conferences to be held in ten cities during February, March and April 1949 has been announced by the National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio. Schedule dates and places are: Kalamazoo, Mich., February 10-12; Detroit, February 14-16; Evansville, Ind., February 21-23; Peoria, Ill., February 28-March 2; Duluth, Minn., March 10-12; Omaha, Neb., March 15-17; St. Louis, March 21-23; Binghamton, N. Y., April 7-9; Cleveland, April 14-16 and Columbus, Ohio, April 18-20.

George Boeddener, secretary-treasurer of the Association, reveals that

New - IMPORTANT
ADVANCE IN HEATING
AUBURN AquaFinn
HEATING UNITS
Instantaneous Hot Water [ALL YOU WANT]
Plenty of heat for rooms [FROM COLD START] in 3 min.
GET THE MOST FOR YOUR MONEY!



Send for FREE Literature ON THIS MODERN HEATING UNIT

From painstaking research, a remarkable new heating unit AQUA-FINN has been developed. Now you get practically instantaneous hot water for heating plus a continuous flow of domestic hot water. You have all this grand performance with 1/3 less fuel. Long-life finned copper tubing in the boiler performs this miracle. Minute in size—a jumbo in performance.

(A) boiler, (B) expansion and domestic hot water storage tank, (C) water circulating pump, (D) oil or gas burner, all in one compact unit. You can expect more—much more and get more from this revolutionary new heater.

AUBURN BURNER CO. Auburn, Ind.

these are the only conferences scheduled for 1949 and that local committees now are being organized to conduct the conferences. Warm Air Heating Schools, as the conferences are known more familiarly, have been attended by more than 5,000 heating men during the two years in which the dealer educational program has been conducted. Guy A. Voorhees has been in charge of all the schools conducted from coast-to-coast and will supervise the 1949 meetings.

The conferences will consist of a three day program, with morning and afternoon sessions. Instruction will include background material on fundamental principles of heating, advancing to practical application in sizing and laying out various types of warm air heating systems. Prominently used in the courses will be the manuals prepared by the Association, including basic principles and design of ceiling panel heating systems. The final session includes a summary and review of all material covered during the course.

MONARCH
BURNER ACCESSORIES

AIR CONES AND STABILIZERS

F-57 H-215

Atomizing Nozzles

Preferred Because:

1. Each nozzle is individually tested and checked for capacity against the flow of a calibrated master sample. Capacity tolerances are as low as plus or minus 2½%.

2. Standard nozzles will fire most gun type high pressure burners satisfactorily, but special series are also available for burners requiring specified spray characteristics.

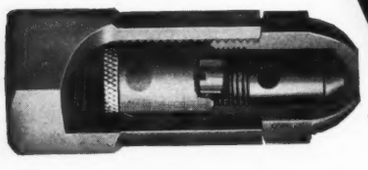
Air cone-stabilizer combinations are available for air tubes from 3½" to 8" I.D.

Monarch combinations have been used as original equipment by burner manufacturers for many years and dealers have used thousands of them to make old burners more efficient. Eliminate guesswork—Use this tried and tested equipment and be sure of *results.*

Pulsation: We can usually suggest a remedy. Give us details of the job.

Replacement Valves

Monarch piston type pressure regulating and cut-off valves are available in several models to suit most replacement needs. G-49 valves can be mounted in any position and piston will not jam from dirt. Contain no bellows or diaphragm to break or corrode.



Write for Catalog D

MONARCH MFG. WORKS, INC.
2503 E. ONTARIO ST.
PHILADELPHIA 34 PENNA.

European Distributor: A. Coutau, Rue de la Scie No. 16, Geneva, Switzerland

Chicago Heating Show To Be Largest Ever

FORMAL ANNOUNCEMENT reveals that the 9th International Heating & Ventilating Exposition will be held in International Amphitheatre, Chicago, next January 24 through 28. The display will be the largest of its kind, with more space allotted for exhibition purposes than at any previous show of heating, ventilating and air conditioning equipment and many exhibitors contracting for enlarged blocks of space.

The exposition is sponsored by the American Society of Heating and Ventilating Engineers in conjunction with its 55th annual meeting. International Exposition Co., New York, is managing the exposition.

G. L. Tuve, president, ASHVE, is chairman of the Advisory Committee for the Exposition. The committee consists of thirty-three members, representing seventeen associations in allied fields.

Wilson Named Chairman, API Committee On Research

DR. ROBERT E. WILSON, Chicago, chairman of the board, Standard Oil Co. (Indiana), has been named chairman of the Committee on Research of the board of directors, American Petroleum Institute. He succeeds the late Henry Weiss.

Sidney A. Swensrud, Pittsburgh, president, Gulf Oil Corp., succeeds Dr. Wilson as chairman of a special committee "to determine the type and scope of a fundamental study of the economic processes of the petroleum industry." John W. Boatwright, Chicago, general manager, Distribution Economics Dept., Standard Oil Co. (Indiana) was named as the replacement for Dr. Wilson on the committee.

ESPA Vote Encourages Increased Crude Imports

A MEETING of the board of directors, Empire State Petroleum Association, New York 17, N. Y., held in New York City early in October unanimously voted to lend support to the encouragement of American oil companies to develop and increase importations of foreign crude oil to the heavy consuming areas of the Atlantic Seaboard states. Secretary Harry B. Hilts in reporting

the action deplored the action of certain crude purchasers in raising domestic prices 35¢ per barrel and expressed the belief that the Board agreed that further raises in finished products must result.

In addition to inflicting burdensome hardships on the small marketers, Mr. Hilts cited the raise as a possible incentive for pressuring Congress into enacting such restrictive measures as excess profit taxes, rationing and price control laws. He expressed the hope that the efforts of oil companies viewing the situation from a long-range standpoint would prevail over those who were out to "get all the traffic will bear."

NAFM Form X-12 Compares Commercial Fans

FORM X-12, Fifth Edition, published by the National Association of Fan Manufacturers, Detroit 2, Mich., is designed as a service to architects, engineers and the public. The tables of fan sizes are represented as a fair general comparison of physical proportions only of commercial fans manufactured by member companies. The folder is not intended as an index of operating characteristics, for which information data published by the individual manufacturers should be consulted.

Two tables enumerate information for commercial mutiblade and non-overloading fans, single inlet and width and double inlet and width.

NPA Releases Dates For Future Meetings

MEETING DATES for 1949 and 1950 have been released by the National Petroleum Association, Washington 4, D. C. The 1949 sessions will be held April 13, 14 and 15 at the Hotel Cleveland, Cleveland and September 14, 15 and 16 at the Hotel Traymore, Atlantic City, N. J. The meetings during 1950 are scheduled for the same locations on April 12, 13 and 14 and September 13, 14 and 15.

Timely Talks Highlight ESPA Buffalo Meeting

TIMELY and interesting subjects were covered by the speakers featured during sessions of the September convention of the Empire State Petroleum Association, Inc., New York 17, N. Y., held in Buffalo. Included in the business transacted were the adoption of two resolutions, one endorsing the program of the Oil Industry Information Committee, the other endorsing the resolution of the National Oil Jobbers Council, urging that adjustments be made "that will achieve a more equitable distribution of the net profits between production, refining, transportation and marketing. . . ."

R. M. Bartlett, vice-president, Gulf Oil Corp., in his talk discussed "Mutual Problems of Refiners and Resellers" and paid tribute to the success of burner and oil industry cooperation, particularly during last winter and during the past summer in increasing fuel storage facilities. Emphasizing that he agreed with authoritative predictions that there would be little or no supply troubles this heating season, he cautioned refiners, jobbers and dealers against selling more oil than they have in sight. He urged continued conservation measures and filling of all available customer and dealer storage as early in the season as possible. A sharp watch against emer-

MORE AND MORE DEALERS

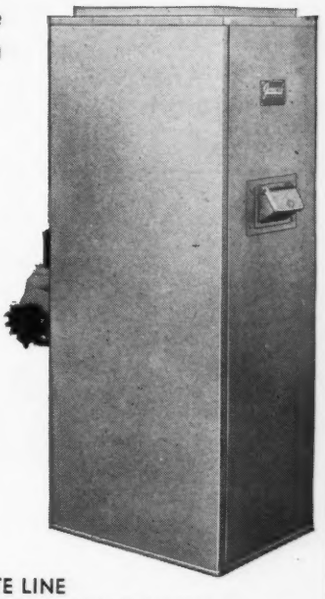
Check up then SIGN UP

in General Automatic's exclusive profit making national expansion program

One Big Reason Why:

C-85 Highboy
Attractive Package Seller

Winter Air Conditioner for basementless homes. Compact unit . . . Easy to install . . . Easy to service. Beautifully finished cabinet creates unusual eye appeal. 85,000 B.T.U. at bonnet. 5' high, 20" square. A fully automatic heating unit in one quick-selling package. Other models (Lowboy) up to 200,000 B.T.U.



Write For Exclusive Dealer Franchise Proposition

CHECK THIS COMPLETE LINE

CONVERSION BURNERS Domestic & Commercial
OIL BOILERS Summer-Winter Hook-up
COMMERCIAL WATER HEATERS
WINTER AIR CONDITIONERS 5 sizes

GENERAL Automatic
Est. 1924

Checks first . . . with the finest!

GENERAL OIL BURNER CORP., 2300 Sinclair Lane, Baltimore 13, Maryland

gencies and quick implementation of measures to meet them, Mr. Bartlett declared, may not prevent emergencies from occurring but will demonstrate the ability of the industry to handle its problems and "answer the advocates of control by saying that everything has been done that they, or anyone else, could do."

In speaking of the "Future of Fueloil Distribution," Wiley H. Butler, president, Coastal Oil Co., deplored attempts of some oil companies to single out the oilburner industry as the major cause for last season's supply shortages. Rather, he said, sales of all petroleum consuming devices — diesel engines, automobiles, tractors, burners, etc.—should have been retarded. Condemning attempts to sell burners "in the face of unknown conditions," but conceding that the "pressure is off" supply, Mr. Butler contended that "we should approach this coming season with caution, but refuse to be discriminated against as one consuming device in the petroleum industry." He urged dealers to increase their storage facilities to the point where, in their own and in customers' tanks, they can store 25% of refinery output, against the present average of 12 to 13%. Mr. Butler advanced the suggestion that for the independent oil marketer to stop being "dependent," he should participate in the organization of a national association, with state chapters composed of groups like ESPA. Such an organization to be effective, he concluded, must not be founded on the basis of local or national emergencies, but on a long-range program properly planned and directed.

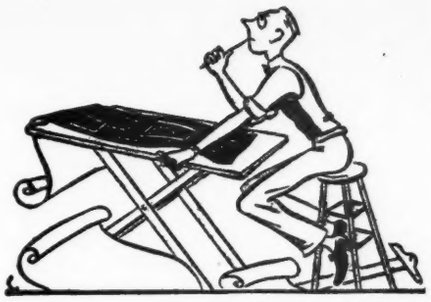
Benjamin H. Gordon, head of the Domestic Staff, New York Regional Office, U. S. Department of Commerce, speaking on "What Lies Ahead for Business," cited the adverse effect of steel shortages on the petroleum industry and asserted "we will become increasingly dependent upon foreign sources for oil." He complimented the oil industry for its efforts to overcome last year's supply difficulties and discussed the future importance of our export market in improving living standards throughout the world.

The turning points and duration of twenty-one business cycles experienced by this country since 1854 were covered in "Inflation and Our National Economy" by Martin Gainsbrugh, Chief Economist, National Industrial Conference Board. He compared also present business cycles with conditions following four other war periods.

In discussing "Trends in State and Local Legislation," Edward D. Cray, executive secretary, New York Petroleum Industries Committee, outlined the program followed by the committee to defeat passage of inimical legislation and to support the introduction and adoption of constructive measures.

Robert E. Friedman, assistant director and chief counsel, Oil & Gas Division, Department of the Interior, told of the background and objectives of the Voluntary Petroleum Allocation Agreement. He emphasized that with the machinery established for dealing with petroleum on a voluntary basis, responsibility for application and observance of the program now rests with the industry itself.

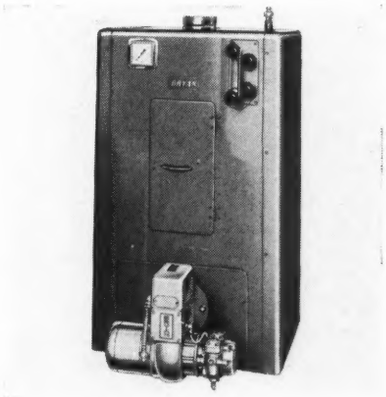
An invitation by the Mayor of Niagara Falls, N. Y. for the association to hold its next meeting in that city was referred to the ESPA Convention Committee for further action.



New Products

Seamless Copper Tubing In Bryan Domestic Boiler

A DOMESTIC BOILER, recently marketed by Bryan Steam Corp., Peru, Ind., utilizes seamless copper tubing to circu-



late water directly over the flame. Almost instant radiator heat is obtained from the closely-nested copper tubes, which are employed in both gas and oil-fired models. The boiler is constructed from heavy steel welded boiler plate and complies with ASME low pressure boiler code specifications.

Especially designed for installation in a small space, the compact unit is enclosed in a streamlined cabinet with green synthetic enamel finish. Burner and all parts are factory assembled simplifying installation.

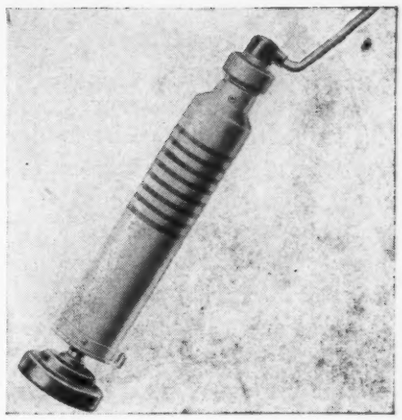
Delavan Announces Fueloil Sludge Solvent

A SOLVENT, designed to eliminate sludge in oilburner systems, has been announced by Delavan Engineering Co., Des Moines, Ia., augmenting its line of oilburner nozzles. Delavan Sludge Solvent is described as a combination of non-toxic chemical solvents, non-corrosive and harmless to oilburner parts.

When being used as a sludge preventive, a half pint is prescribed as the recommended dosage for 500 gals. of fueloil. Designed also to remove accumulations of sludge in the system, double amounts are needed. It is planned to sell the solvent through fueloil and oilburner dealers.

True-Spot Smoke Tester Added To Bacharach Line

ADDITION to its line of smoke measuring instruments of the "True-Spot" tester is announced by Bacharach Industrial Instrument Co., Pittsburgh, Pa. The hand-



High Temperatures Can't Injure the *Improved* R & I Combustion Chamber

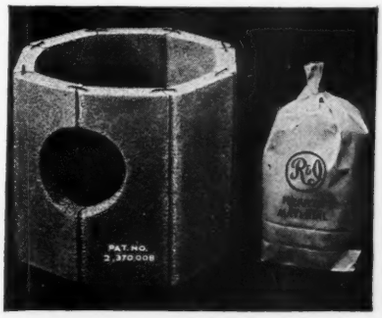
A new super-duty refractory is now being used to make the R & I Chamber.

It withstands temperatures much higher than produced by any domestic oil burner, even the new burner heads noted for their high combustion temperature.

This new chamber is tough, too, and takes severe abrasion and thermal shock.

Everything to do a complete job is packed in a strong carton that can be carried and stacked by one man. Good on any job from 1 to 1.65 gal. per hour.

Your supply house has or can get R & I Chambers. Write us for Bulletin OB-99.



REFRACTORY & INSULATION CORP.
116 WALL ST. NEW YORK 5, N. Y.
Chicago 4, Ill. Newark 2, N. J.
Philadelphia 3, Pa.

R&I COMBUSTION CHAMBER

operated instrument is to be used primarily to check oilburners for clean firing as a companion piece to Bacharach's Fyrite CO_2 Indicator.

A smoke test is made by locking a paper test disc into the instrument, inserting its metal probe into a hole in the smoke pipe and drawing with six pump strokes a sample of combustion gases. Upon removal, a comparison of the discoloration of the disc with nine shadings on a "Scale of Soot," supplied with the instrument, indicates the soot content of the gas sample. The soot scale tells the limits of permissible smoke for various burners and types of heating systems. A supply of test discs fits into the handle of the instrument so that they are convenient and protected until used.

Dual-A-Fire Combination Uses Pressure Type Burner

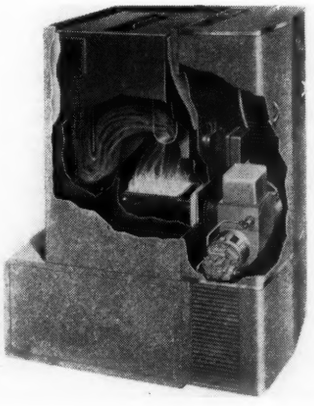
DUAL-A-FIRE, combination gas-oilburner, employs a pressure type oilburner and an atmospheric gas burner, designed for fully automatic operation. Developed by Automatic Firing Corp., St. Louis 5, Mo., maximum capacities for the burner are 175,000 Btu/hr of natural, mixed or manufactured gas; 3 gph No. 3 fueloil. Installed to burn gas, an outside Weatherstat, set at a predetermined temperature level where gas production is not able to supply peak loads, switches the system to oilburning. Available also is a Dual-A-Fire furnace-burner unit, with a combination burner already installed. Output ratings of the furnace units for gas firing are 80,000 Btu/hr; 96,000 Btu/hr for oilfired operation.

Controls furnished as standard equipment with the burner include a thermostat, limit and primary oilburner control, outdoor remote bulb control and automatic gas and oil flue damper system. The damper system, depending upon the type of fuel being used, provides a barometric damper for burning oil and a down-draft diverter when the unit switches to gas. Entire operation is fully automatic with either type of firing.

Airtemp Marketing Two New Furnace Units

TWO MODELS of winter air conditioning units have been introduced recently by Airtemp Div., Chrysler Corp., Dayton, Ohio. One, a vertical, gasfired unit, develops 80,000 Btu at the bonnet, the second, model FLF-90 is an oilfired model, with an output of 90,000 Btu's. The burner is a flange-mounted, pressure atomizing model, requiring no floor support.

Both furnaces are formed from heavy gauge sheet steel, with bonderized surfaces inside and out. Blower assemblies are rubber-mounted, the blowers being of the slow speed, centrifugal, multiple-blade type which can be drawn forward clear of the units for adjustment. Two rectangular radiators, mounted in paral-

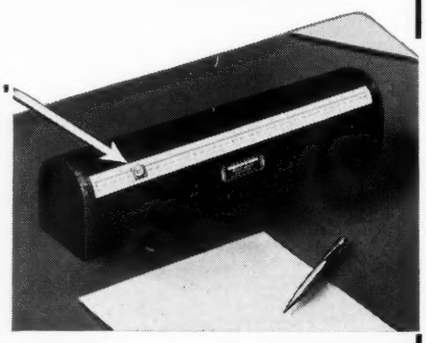


Sensational

DEGREE DAY DISPATCHER

SETS UP THE NEXT FUEL OIL DELIVERY "INSTANTLY"

One Flip of the "FINDER" and the exact total Degree Days at which the next delivery should be made appears magnified on the dial.



NO Dividing Subtracting Multiplying Adding (Pat. Applied for)

OVER 55,000 PRE-CALCULATIONS DO IT AUTOMATICALLY

THE DEGREE DAY DISPATCHER SAVES UP TO 90% ON TIME

INCREASES THE SIZE OF DELIVERIES—
DECREASES THE NUMBER OF DELIVERIES—
NEEDS LITTLE OR NO TRAINING TO OPERATE—
INSURES ABSOLUTE ACCURACY—

$25.00 Complete with operating cartridge for single and multiple 275 gallon tank installations.

Clip and Mail today for FREE trial offer.

RUE MANUFACTURING CO., 1433 Melon St., Philadelphia 30, Pa.

Please send me D.D.D. for 10 Days FREE inspection and trial. Within that time I will remit $25.00 plus mailing charges or return the instrument postpaid.

NAME .....

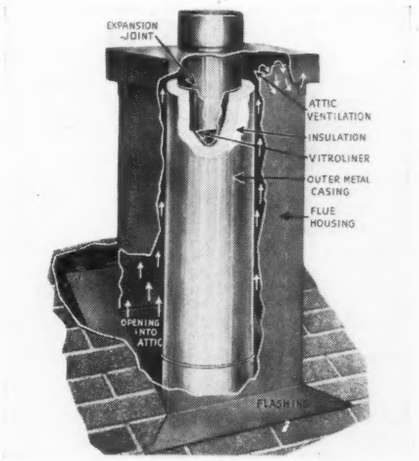
STREET .....

CITY .....ZONE.....STATE.....

lel on either side of the firebox, permit long flue travel and ample heat-extracting surfaces. Designed for installation in small space, the sides of the furnaces can be installed safely as close as 2" to combustible material.

Vitroliner Type "E" Flue Offered As Packaged Chimney

A LIGHT WEIGHT prefabricated flue, marketed as the Packaged Chimney, is offered by Condensation Engineering Corp., Chicago 3, Ill. The chimney is



supported entirely from the ceiling and roof and does not require any brick work. The central flue consists of a porcelain enameled metal liner, with long fiber asbestos insulation between it and an outer metal casing.

Advantages include ease of installation, durable, efficient operation and low cost. Underwriters Laboratories lists the chimney as acceptable for all fuels. Condensation designates the item as Vitroliner type "E" flue.

Jackson Calculator Furnishes Air Duct Data

AN AIR DUCT CALCULATOR, available from Thomas M. Jackson Co., Detroit 31, Mich., consists of three scales designed to furnish accurate design data for air distribution ducts. The device measures 3¾" x 9¼", with each scale in a different color to facilitate reading.

Scales A and B give readings in inches for diameters of round ducts, the former based on a velocity reduction method, the latter by the equal pressure loss method. Scale C converts round duct size readings to sizes of rectangular ducts in inches. The calculator operates on the principle of the slide rule, each scale working independently of the others.

Three Sizes Of Gopher Oilfired Water Heaters

THREE SIZES of Gopher oilfired storage type water heaters are offered by American Gas Machine Co., Albert Lea, Minn. Model 4582 is furnished with a storage tank of 20 gals. capacity, model 4783, 30 gals. and model 4784, 45 gals. Recovery rates at 60° temperature rise for the models are 28 gph, 42 gph and 62 gph, respectively; 100° temperature rise, 20, 30 and 38 gph respectively. Maximum working pressure is 150 psi and each tank before shipment is tested to withstand 300 psi.

Nelson Cowl stainless steel vaporizing oilburners fire the heaters and feature automatic control of flame from pilot to high fire when thermostat calls for heat. Standard equipment includes also an automatic constant level valve, whose control bulb is clamped to the tank to measure water temperature and call for heat when it drops below thermostat setting. All controls are concealed behind a service door which provides access to all working parts. En-

TO A USER the Electrol Ball Flame means years of quiet, clean, efficient heating service. It means performance that is high in comfort and low in operating costs.

TO A DEALER the Electrol Ball Flame stands for thousands of satisfied customers, continuous sales and profitable business. The Electrol story demands attention. Sell a burner that is different. Sell a burner with exclusive sales points. Sell Electrol.

ELECTROL BURNER MANUFACTURING CO., INC.

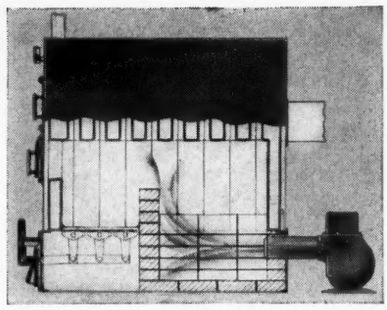
22 UNION AVENUE
RUTHERFORD, NEW JERSEY
RUTHERFORD 2-8300

tire burner assembly is removable. Each model is equipped with a magnesium anode corrosion preventer, and Walker automatic draft regulator.

Reliance Oil Boiler With Emergency Grates

SMITH-MILLS RELIANCE oilburning boiler, introduced by H. B. Smith Co., Inc., Westfield, Mass., features a special emergency coal grate built in as an integral part of the unit. The grate equipment, designed to permit burning a coal or wood fire, instead of oil, during power failures, is located at the front end of the boiler, and, at the rear of the unit, a combustion chamber for automatic firing. During normal operation, the grates are covered with insulation board, and when it is removed during an emergency, sufficient space is available to burn solid fuel necessary to maintain livable conditions.

Four sizes of model 20 boilers range in capacity from 675 to 1,275 sq. ft. steam, 1,080 to 2,040 sq. ft. hot water recommended net rating, when fired with oilburners rated from 2.4 to 4.3 gph. Model 25 boilers, also available in four sizes, are rated from 975 to 1,950 sq. ft. steam, 1,560 to 3,120 sq. ft. hot water recommended net rating, with oilburner firing rates ranging from 3.5 to 6.4 gph. One size of model 20 boilers and all sizes of model 25 are furnished with jacket.



MD

PRODUCT OF RESEARCH

Research is the backbone of Progress.

Many years of research specifically in the oil burner field is back of each MD motor.

MD motors are lighter—research developed an all aluminum die cast frame.

MD motors are really dependable—research gave a relay instead of a starting switch.

MD is the answer to your oil burner motor problems—research produced MD motors.

ELECTRIC MOTOR DEVELOPMENT COMPANY
WICKLIFFE, OHIO

Krak-Stick Pipe Cement In Handy Stick Form

KRAK-STIK, pipe mending cement, available from Lake Chemical Co., Chicago 12, Ill., is offered as a positive seal for repairing split soil pipes, sandholes, cracked pipes and gaskets. It is supplied in stick form and applied by rubbing over the break. Pipes do not have to be prepared for application of the compound, which also can be applied as a caulking compound.

Hydraulic Pipe Bender Is Lightweight, Portable

A LIGHTWEIGHT, PORTABLE pipe bender, the total weight of which is only 83 lbs., has been announced by the Electric Cord Co., New York 7, N. Y. It consists of a steel welded frame and hydraulic jack, with open jaw construction. The jack itself is removable and can be used for other purposes. Units are furnished complete with ¾", 1", 1½", 2" and 2½" dies. Special dies also can be provided to handle rods, flats, and electric bus bars.

Gillen Winter Conditioner With Continuous Circulation

CONTINUOUS AIR CIRCULATION features a vaporizing, forced-draft, oilburning air conditioner introduced by J. L. Gillen Co., Dowagiac, Mich. Rated at an 80,000 Btu output, constant warm air circulation is accomplished with a three-stage flame, controlled by thermostat. A modulated pilot, medium and high fires are provided, with the high flame repre-

Substantial Savings NOW on--

GLOBE

Hot Water

CIRCULATORS

Rugged, perfectly engineered and made of *top quality* materials. A new, low price . . . lower than other circulators made of the very same materials.

QUIET! TESTED! GUARANTEED!

Bearings
Extra long, oil impregnated bronze.

Water Seal
Patented, rotary type —carbon on bronze.

Motor
Westinghouse or equivalent. 1/6 hp.

Coupling
Neoprene — flexible.

Manufacturers of Low Water Cut-Offs and Controls for a Quarter Century.

GLOBE CONTROLS CO.
81 WARREN ST. NEWARK 2, N. J.

EXCLUSIVE TERRITORIES AVAILABLE

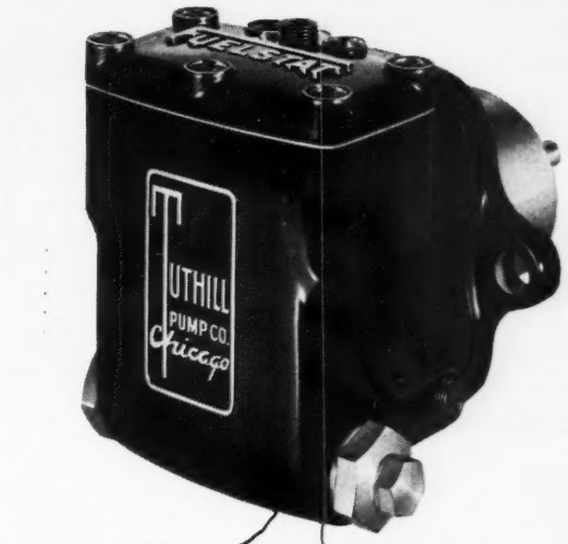
E-Z MORE PROFIT *per Service Call*

When the oil burner Servicemen answer a call it is easy many times to add furnace cleaning to the job. E-Z Fuel Oil Soot Destroyer (for fuel oil soot only) does a thorough, clean, safe job in just one application. Takes but a few minutes. Keep a 5 lb. Can on each service truck, always. Stock the 1 lb. Cans for sales to your customers. If your Distributor cannot supply you, order direct.

No. 1 Pkg. approx. 1 lb. . . . List $1.00 ea.
No. 5 Pkg. approx. 5 lbs. . . List $4.50 ea.
Liberal discount to bona fide Servicemen.

Special discount to Distributors on quantity purchases, allows for extending regular discount to Dealers and Servicemen.

HEALY-RUFF COMPANY
797 Hampden Avenue St. Paul 4, Minnesota



QUIET, LEAKFREE PERFORMANCE

LOWER POWER CONSUMPTION

FUELSTAT FEATURES LIKE THESE ADD UP TO GREATER USER SATISFACTION

Write for complete details in Tuthill Model 3OEN bulletin.

TUTHILL PUMP COMPANY
939 East 95th Street
Chicago 19, Illinois

By

EXCEL-SO

MODEL 'D'

MICRONIC FILTERS

Excel-So Model "D" Micronic Filters are now available in capacities 10 GPM to 500 GPM.

Replaceable filter elements of varying densities can be provided to handle any product with results ranging from 5 to 50 microns on your specifications.

Each element rated at 10 GPM on gasoline has a net effective filtering area of 723.5 Sq. Inches.

LONG UNINTERRUPTED OPERATION

LOW PRESSURE DROP

WARNER LEWIS COMPANY

BOX 3096P - TULSA, OKLAHOMA

USE THIS COUPON

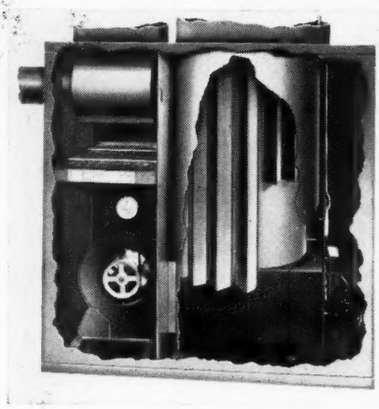
Please Send More Information Re: Model "D" Filters

EXCEL-SO

Name _____

Street _____

City _____

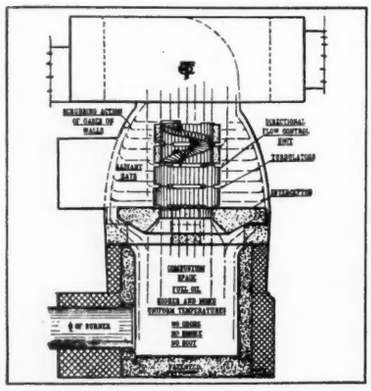


senting a reserve capacity, designed to burn only in very cold weather.

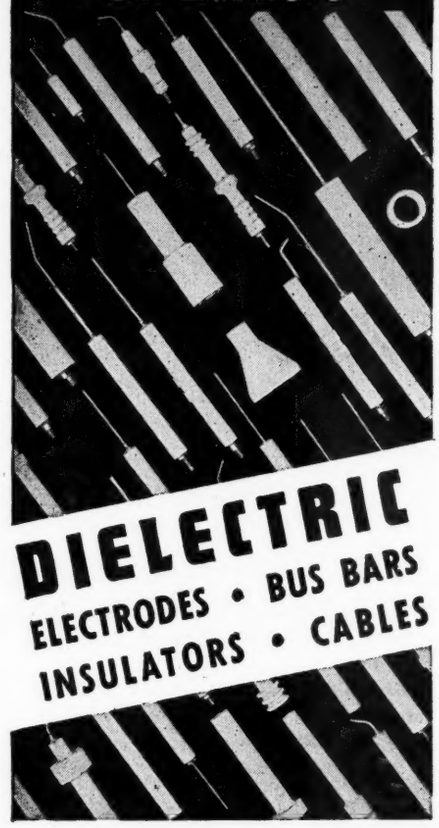
The compartment, containing the 13" burner, and controls is mounted as a single unit, accessible for servicing and adjustment. Both blowers, combustion and circulating, are rubber-mounted. The Furnace Master, a factory-assembly unit, eliminates the necessity of additional wiring at the time of installation and contains a built-in antiflooding device, blower switch and limit control. Entire unit measures only 25" in width and passes through the average door without uncrating. A high-boy model also is available for utility room installation.

Frankland Fuel Conservor Is Directional Heat Control

DESIGNED FOR FIREBOX INSTALLATION, a directional heat control, developed by Edwin Frankland, Detroit 2, Mich., consists of an interceptor, made in halves for ease of installation and four metal turbulators through which gases traverse a continuous helical path, making two complete turns. Gases thus are discharged high in the boiler or furnace, and it is claimed that these high temperature gases tend to burn off carbon deposited on boiler or furnace walls. The Fuel Conservor during burning opera-



The Most Widely Used Ignition Assemblies for Oil Burners



DIELECTRIC

ELECTRODES • BUS BARS

INSULATORS • CABLES

STANDARD AND SPECIAL ASSEMBLIES IN ALL TYPES AND LENGTHS

The majority of oil burners being installed or serviced today are equipped with Dielectric electrode assemblies . . . and for good reason—

1—They are made with the finest steatite insulators and electrode tips . . . in any designs to meet specific burner requirements.

2—They have all Underwriters Laboratories, Inc., approvals.

3—Standard assemblies are available for quick delivery.

4—Assemblies with special insulator and electrode sizes and shapes can be made on short notice.

In addition, Dielectric high tension cable assemblies and Dielectric bus bars for transformer and electrode layouts are available for any practical burner hook-up.

Let Dielectric's complete, prompt engineering cooperation help improve your burner and expedite production. Write for bulletin.

DIELECTRIC

PRODUCTS CO., Inc.

125 Virginia Ave., Jersey City 5, N. J.

Boston • Philadelphia • Des Moines

tion also absorbs some of the heat from flue gases and discharges this heat to surrounding boiler walls by radiation.

The sections of the unit pass through any firebox door and are built up inside the furnace. Conservors are designed specifically to improve combustion efficiency in boilers or furnaces where coal grates have been removed and oilburners installed. They slow down passage of combustion gases, permitting maximum amount of heat to be extracted before discharge to the flue.

Cam-Stat Offers Furnace Fan and Limit Control

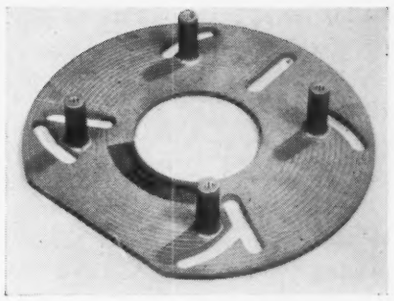
A SINGLE-UNIT furnace control, functioning as air limit and fan control, has been announced by Cam-Stat, Inc., Los Angeles 34, Cal. Ratings of the control are 1500 volt amperes, ¼ hp and 125 volt amperes pilot duty at 120-240 volts A.C. Can be supplied for low voltage air limit control applications. Total range of the limit control is 100-200° F., with a 10° differential; range of the fan control is between 100 and 165° F. cut-in temperature, with a 15° differential. A summer position provides operation of the fan for ventilating purposes. Ranges and differentials can be varied to meet special specifications.

The entire control weighs only 12 oz. and measures 5⅜" by 2⅞" by 2¼". Designed to regulate operation of forced air furnaces and unit heaters, the control is applicable to existing installations, as well as original equipment.

Motoflange Is Universal Motor Mounting Adapter

MOTOFLANGE, developed by Specialty Service Products, Hasbrouck Heights, N. J., is a universal motor mounting adapter flange, permitting practically any standard, conventional fractional horsepower motor to be mounted to any high pressure gun type oilburner, regardless of the hole diameter in which the motor is to be mounted, or the number of the mounting holes. The Motoflange consists of a series of slots which are lined up with the mounting holes of the motor and a larger hole to accommodate the motor shaft.

The manufacturer recommends that servicemen be equipped with a flange and a fractional horsepower motor as



part of their repair kits. Then, when a motor failure is encountered, the replacement motor can be installed temporarily and a "no heat" period avoided. Also in some cases, the cost of a Motoflange and a new motor will be less than repairing the original burner motor.

Burden Co. Producing Blower Assemblies, Wheels

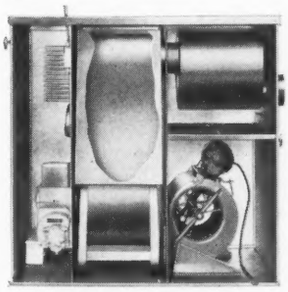
PRODUCTION of a line of blower wheels and blowers has been announced by Burden Co., Los Angeles 38, Calif., fabricated from one continuous aluminum strip. Vanes are light weight, of uniform pitch and curvature, constructed on exclusive Burden machines. Each wheel is balanced by electronic equipment and is equipped with life-

A DISTRIBUTOR OF "KAUSTINE" PRODUCTS WRITES

"We have received literature galore and have seen a lot of oil burning furnaces but frankly we have not seen one which we think compares with Kaustine."

OIL FIRED

Model No. 068—Low Boy is furnished with GUN PRESSURE TYPE BURNER (Flange Mounted). Engineered for the modern small home where every square foot of space is utilized. The Kaustine Low Boy Oil Fired Air Furnace will open the greatest possible market for you in today's new construction and replacement field.



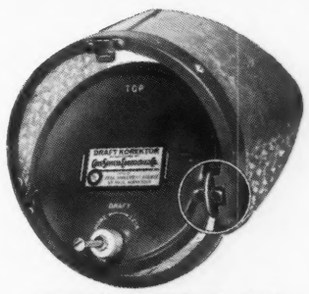
This furnace is constructed to produce 60,000 B.T.U. with a .6 gal. nozzle and 80,000 B.T.U. with a .8 gal. nozzle.

Dimensions of Model No. 068 Low Boy. Floor space: 24½" x 49⅜". Height: 46".

Dimensions of Model B-068 Low Boy (furnished with VAPORIZING Breeze BURNER) Floor space: 24½" x 38½". Height: 46".

Designed and Manufactured by
KAUSTINE COMPANY, INC.
PERRY, NEW YORK

IT'S HERE...



DRAFT KOREKTOR NO. 909

Cole-Sewell's new Draft KoreKtor with a completely redesigned outside adjustment. Achieves closer control for greater fuel economy. Extra large unrestricted opening. Close fitting blade with non-clogging knife-edge pivots.

Now—with a memory of fuel shortages and mounting heating costs fresh in mind, thousands of people are willing to buy equipment which will save fuel without sacrificing comfort. C.S.C. draft controls will help you share in this huge market.

Ask Us For Details

COLE-SEWELL *Engineering Co.*

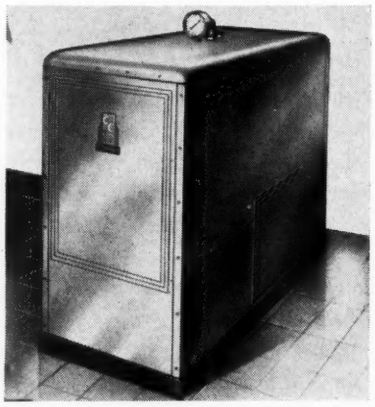
2288 University Ave. • St. Paul 4, Minn.

time lubricated bearings. After a louvre strip of blades is produced on one machine, another applies and permanently locks end rings and louvres without welding or rivets.

Single inlet wheels, in diameters of 3" through 8¼", widths, 1⅞" through 3¾", double inlet wheels of the same diameters, widths 3¾" through 7½", are available as standard equipment. Double inlet wheels, with spoke end rings, in sizes from 9¼" to 16¼" diameters, 9" to 16" widths, also are available. Wheels and assemblies can be furnished to meet specific requirements or specifications, other than those covered by standard sizes.

Carter Craft Hi-Therm Is Steel Boiler Unit

HI-THERM boiler-burner units, announced by Carter Craft Corp., Thompsonville, Conn., are in full production



and ready for immediate delivery. The new unit is a steel boiler, rated for 325 sq. ft. steam, 450 sq. ft. hot water radiation. Larger sizes will be available shortly.

The unit features a double incline, single fire pass and is fired with a Carter Craft turbo-twin jet oilburner in a specially-designed combustion chamber. Jacket, measuring 20" x 36" x 48" long, is made of Johns-Manville transite. Shipments from the factory are completely packaged, ready to install.

Allied Products Announces Corodex Coil Clean Compound

CORODEX COIL CLEAN is offered by Allied Products Co., Chicago, to dissolve lime and mineral deposits from copper, brass, bronze, iron, steel or stainless steel coils. It is not necessary to remove the coil, but only to bring the liquid Corodex in contact with the scale. Foaming action indicates that scale is being dissolved and when the foaming subsides, cleaning has been completed. Corodex is non-explosive, non-inflammable and will not injure metal or the hands of the user. Available in quantities from one to fifty-five gallons.

Modulating Blower Control Available From Volu-Trol

VOLU-TROL CO., St. Paul, Minn., is distributing a control which, by changing damper positions, modulates the distribution of warm air in a forced circulating system. It provides for continuous circulation by a blower switch setting to operate the blower as long as plenum chamber temperatures are in excess of 90° F.

The control consists of a heat-actuated instrument, installed in the warm air plenum, which moves a cable in and out as the temperature varies. The cable opens and closes the damper as it is actuated by the instrument and moves back and forth. A spring and spring clip maintain proper tension on the cable and all necessary parts are

CUT FUEL COST
NOW

PATENTED

WITH THE NEW
TRU-HEET
OIL BURNER

Equipped with
SHELL DEVELOPMENT CO.
COMBUSTION HEAD

Also
Many Other New Features

- CO_2 high as 15%—no smoke
- Fuel savings high as 30% and over
- Oil rate 0.50 to 10.00 G.P.H.
- Thousands of proven installations, since 1945

Also Boiler & Warm Air Units

Direct your inquiries to
TRU-HEET COMPANY
542 MILLER AVE.
TRENTON 10, N. J.

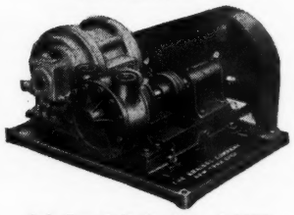
Manufacturers of Fine Oil Burners
Since 1928.

KRAISSL
PUMPS AND SEPARATORS
FOR OIL BURNER SERVICE

CLASS 50 LIGHT OIL PUMPS
DIRECT DRIVE FOR
#1 TO #5 OILS INCLUSIVE

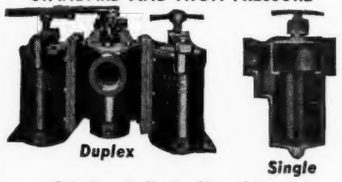
Ask For Bulletin A-1330

CLASS 60 HEAVY OIL PUMPS
REDUCTION DRIVE
FOR HEAVY OIL



Ask For Bulletin No. A-1193

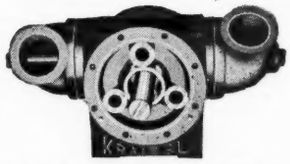
CLASS 72 STRAINERS AND FILTERS
SINGLE AND DUPLEX
QUICK CLEANING
STANDARD AND HIGH PRESSURE



Duplex Single

Ask For Bulletin No. A-1214

CLASS 80 TRI-ROL PUMPS
INTERCHANGEABLE SERVICE
BOTH LIGHT AND HEAVY OILS
TANK TRUCK AND BULK SATION



Ask For Bulletin No. A-1366

295 WILLIAMS AVE.
THE KRAISSL COMPANY
HACKENSACK, N. J.

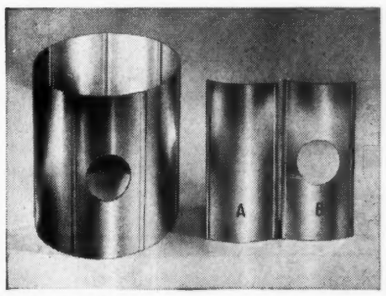
Want to make "a DOLLAR A MINUTE?"

You can do it installing the new

HEAT-RESISTANT STAINLESS STEEL

PANELOX (Trade Mark Reg.)

COMBUSTION CHAMBER FOR OIL BURNERS



- Installed in Minutes
- Heats up in Seconds
- Stands up for years
- Saves up to 25% Fuel Oil

Patent applied for

Reduces noise, smoke, soot and oily film. Provides more even heat. Prevents override. Requires no backfill. No cementing. No tools. Panels slide together easily. Light weight. Easy to handle. No breakage. Live dealers are really cashing in with PANELOX. Sold by leading Wholesalers.

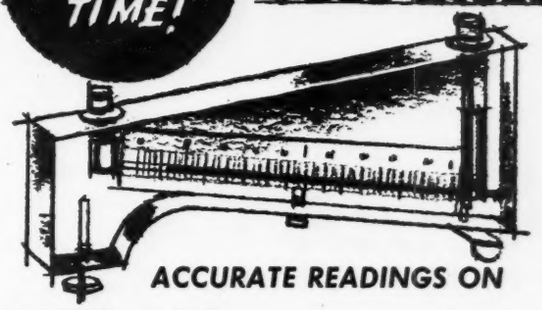
Write, wire or phone for full details . . . Now!

STEFCO STEEL COMPANY • Dept. F. O.

Heating Equipment Division • Michigan City, Indiana

RIGHT THE FIRST TIME!

DWYER TRANSPARENT INCLINED TUBE GAGES



No. 102 (2") Inclined Gage

ACCURATE READINGS ON

- Drafts
- Air Velocities
- Slight Pressure Changes

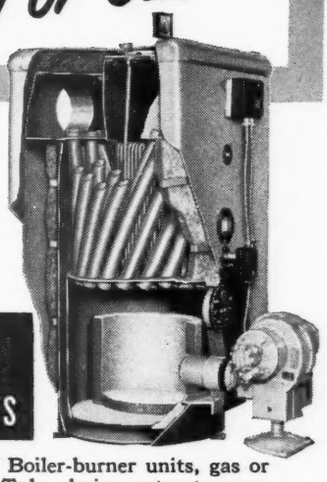
DWYER Inclined Tube Gages are precision-made and easily operated. Continuous indications and fluctuations can be observed while adjustments are in progress. Body is solid, clear, unbreakable plastic—scale is highly visible, graduated to .01". Micrometer adjusting screw for easy, accurate leveling.

DWYER Bulletin 205 sent on request

F. W. Dwyer Mfg. Co.

315 SOUTH WESTERN AVENUE, CHICAGO 12, ILLINOIS

Finer Performance with Oil or Gas



ASME CONSTRUCTION

EXCLUSIVE SPIRAL TUBES

Mt Hawley BOILER-BURNER UNITS

104,000 to 1,043,000 BTU Boiler-burner units, gas or oil-fired. Exclusive Spiral Tube design extracts more heat, reduces stack temperature by 100°. 7 sizes—3 domestic; 4 commercial. Shipped assembled, just remove crate. Easy to install. All sizes available galvanized for water heating. Write for literature.

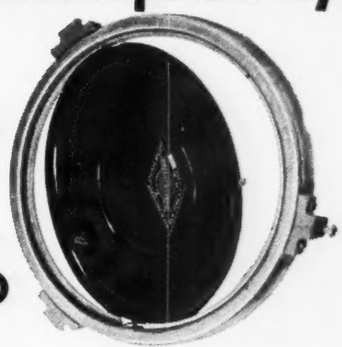
MT. HAWLEY MFG. COMPANY

3, Mt. Hawley Airport, Peoria, Illinois

Manufacturers of a complete line of conversion oil burners—0.65 to 20 G.P.H.

PREFERRED DRAFT-A-JUSTORS

Cut Fuel Consumption by 10% TO 30%



The *Preferred* Draft-A-Justor is the original, patented Draft-A-Justor . . . improved to include the latest in engineering developments.

Stainless steel bearings and weather resistant metals provide long-life service without breakdown due to rust or wear . . . assure *continuous* fuel savings.

Millions now in satisfactory use.

WRITE FOR DESCRIPTIVE LITERATURE AND TRADE PRICES.

SIZES

Stove, domestic and commercial sizes from 4" to 24" in diameter.

Industrial sizes from 2' x 2' to 5' x 12'.

PREFERRED UTILITIES MFG. CORP.

1860 Broadway, New York 23, N. Y. Boston Office: 839 Beacon St.

Machine Made — They FIT!

Prefabricated in Long-Lasting Aluminum

"S" and Drive Clips Furnished

CHAR-GALE

ALUMINUM FITTINGS

CHAR-GALE MFG. CO.

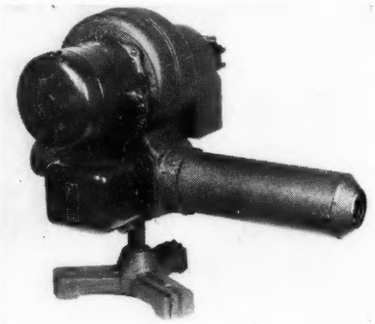
Minneapolis
Omaha

furnished except the damper, which the manufacturer recommends be made of .026 gauge aluminum or not heavier than 24 gauge steel. The control supplies its own power, eliminating the necessity for wiring or adjusting.

Harvey Gun Burner With Shell Combustion Head

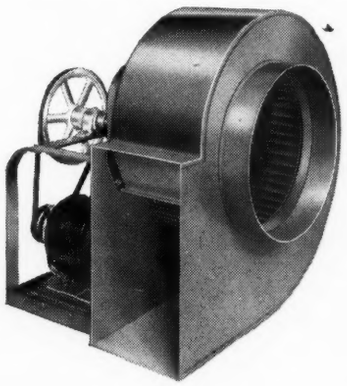
THREE MODELS of gun type oilburners, developed by Sid Harvey, Inc., Valley Stream, N. Y., range from .75 to 6.0 gph capacities, with blast tube lengths of 6", 13" and 25", respectively. The burner employs the conventional pressure atomizing principle, with standard, replaceable parts. Exceptional cleanliness and operating economies are claimed for the burner, which incorporaes the Shell designed combustion head as standard equipment for all models.

The combustion head is mounted on a burner casting, with new scroll designs and close tolerances developed after research. Burners will operate on all grades of oil, including catalytically-cracked oil.



No Cabinets Needed With Brundage Blower Exhausters

BLOWER EXHAUSTERS, introduced by The Brundage Co., Kalamazoo 11, Mich., are of the single width, single inlet type, available in six sizes. Cfm ratings are given from 400 to 800 for the smallest size and from 1500 to 2100 for model S-39, the largest. The frame is designed for adjustment of the angle of discharge by removing the bolts holding the fan housing to the frame and turning the housing to the desired position. It is then necessary only to drill new holes in the proper position and replace the bolts.



The compact units require no cabinets and can be fastened directly to the wall or placed on the outside of the wall since weatherproof housings can be

Why should you use...

FLEXIBLAC?

Flexiblac costs ¼ as much as oil paint. Ideal for exposed or underground iron pipes and metal surfaces. Completely protects against rust and corrosion. Flexiblac won't crack or scale because it's *flexible!* Flexiblac withstands a high degree of heat . . . unaffected by moisture, acids, fumes. The paint for your needs. Flexiblac does a *better* job . . . for *less* money!

Send today for *Free Sample* and complete information. See for yourself what Flexiblac can do . . . as a protective paint . . . as a business-builder. Write:

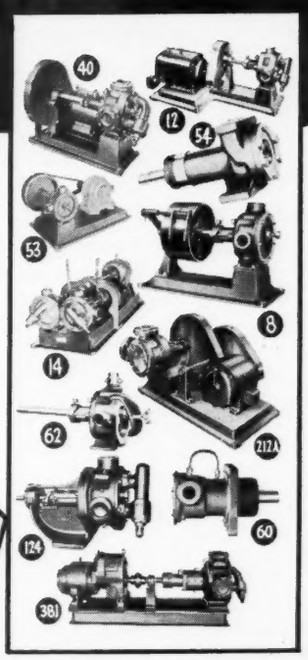
SAMUEL CABOT, Inc. 2280 Oliver Building, Boston 9, Mass.

What will YOU have from the complete

VIKING LINE

of

ROTARY PUMPS?



Viking is a specialist in Rotary Pumps of sizes from 2/3 to 1050 gpm, pressures to 200 psi—500 psi on hydraulic oils. Send for free bulletin 1500EE today!

Samples of VIKING ROTARY PUMPS

See Our Catalog In SWEETS

Viking PUMP COMPANY
Cedar Falls, Iowa

NOW is the TIME to "CLEAN-UP"

with a

GRAND RAPIDS FURNACE CLEANER

Act Now! Get in on this year's cleaning profits. *Order a Grand Rapids Furnace Cleaner.*

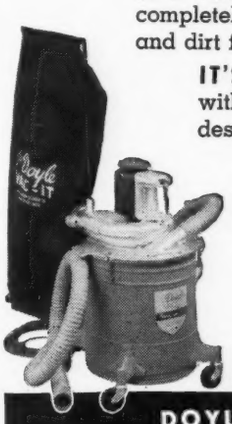
IT'S FAST— Handles twice as many jobs as the ordinary furnace cleaner.

IT'S THOROUGH — High velocity suction completely removes ashes, soot, scale and dirt from every type of heating plant.

IT'S COMPLETE — A packaged unit with practical cleaning attachments designed for fast, easy cleaning.

IT'S PROFITABLE—The trouble-free operation and speedy service of the Grand Rapids Furnace Cleaner puts extra profits in your pockets.

Send today for complete information about the Grand Rapids Furnace Cleaner.



DOYLE VACUUM CLEANER CO.

233 Stevens St., S.W. Grand Rapids 7, Michigan

"Instrument check-ups open the doors to profitable equipment sales."

The FYRITE Combustion-Testing SERVICE KIT

..BASIC TEST TOOLS for Sales and Service

The FYRITE Service Kit provides a complete set of accurate, quality-built combustion-testing instruments at the lowest cost. It contains the FYRITE, the heating trade's favorite CO_2 Indicator; the popular DRAFTRITE Draft Gauge; and a 950° F. Stack Thermometer—all packed in a sturdy metal carrying case, with instructions and the Fire Efficiency Finder. This unique slide rule gives heating efficiency and dollars of fuel saved without calculations or reference to charts.

Instrument-testing will convince the most skeptical prospect that it will pay to follow your recommendations to replace or modernize his heating plant. For example, a Chicago dealer sold 68 burners and $50,000.00 worth of equipment and repairs by making heating efficiency tests. Another dealer, in a small Pennsylvania town, checked 43 heating installations and sold 10 complete replacements by using instruments to demonstrate the heating inefficiencies of existing equipment.

Dealer's net price of FYRITE Service Kit—$34.65 complete, with the TEMPOINT All-Metal Thermometer illustrated; or $33.30 complete, with mercury-in-glass thermometer.

Ask your Jobber or Write for Bulletin 730.

BACHARACH Industrial Instrument Co.

7000 BENNETT STREET • • PITTSBURGH 8, PA.

8

Why Stay Behind the 8-Ball With Old Fashioned Oil Heat?

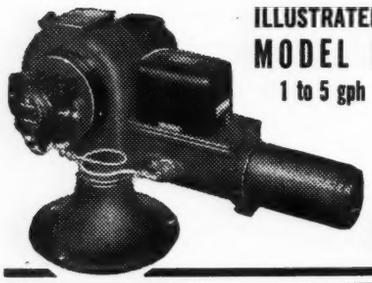
Sell Fuel Saving PENN *Packaged Heat*

Give yourself a chance at sales with *fuel-saving* PENN *Packaged Heat*. No long-winded explanations are needed to sell it. Customers can *see* the *difference*.

PENN BOILER & BURNER MFG. CORP.

Lancaster, Pa.

One of the *OLDEST BURNERS* ...one of the *FINEST!*



ILLUSTRATED MODEL L 1 to 5 gph

U. S. oil burners offer much more in performance and fuel economy—for much less in proportionate cost.
One of the oldest manufacturers of oil burners, if not *the* oldest, U. S. has kept abreast or ahead of the times in burner design and mechanical engineering.
3 models are available, 1 to 5 gph, 4 to 8 gph and 7 to 16 gph . . . a range to cover almost any heating specification.

Write, wire or phone for detailed information.

UNITED STATES BURNER CORP., HARTFORD, CONN.

added. Exhaust ducts can be led directly to the inlet of the blower without special sheet metal work. Units, which are recommended for all types of ventilating, heat removal, fume and smoke removal, feature balanced wheels, with wheel and shaft placed on self-aligning mounted bearings which are fully grounded to the frame.

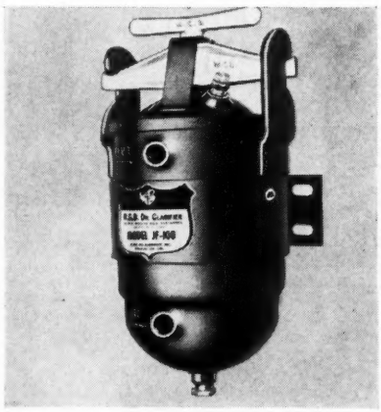
Autocar Highway Tractor Has Short Wheelbase

MODEL U-45-T, highway tractor recently announced by Autocar Co., Ardmore, Pa., has a wheelbase only 96" long, permitting compliance with limits imposed by some states on over-all, tractor-trailer wheelbase, without sacrificing power or load capacity. A cab-over-engine model also is made with a 106" wheelbase, and both compare in power with Autocar's engine-out-front tractor, C-45-T, available in wheelbases 148" and 164" long.

The new addition has a selective-gear transmission with five forward and one reverse speed. Both new models and the C-45-T have 119 hp, 6-cylinder engines, gross vehicle weight of 24,000 lbs., gross train weight, 40,000 lbs.

Model JF-100 Clarofier Is Oil Filtering Unit

CLAROFIER filter for oilburner applications is being produced by W. G. B. Clarifier, Inc., Kingston, N. Y. Installed



as a permanent unit, Model JF-100 employs a low-cost, replaceable filter cartridge, which can be changed without tools or loss of oil.

Designed to remove solid impurities from the oil, unit serves also to keep nozzles free of gum. Manufacturer specifies that the Clarofier be installed on either the suction or gravity in-feed line.

Dutton Announces Series 40 Econotherm Steam Generator

SERIES 40 Econotherm steam generator, announced by C. H. Dutton Co., Kalamazoo, Mich., is designed to overcome difficulties arising from lack of space. By removing the condensate return system and makeup water tank from the casing, overall height has been reduced by as much as 24", overall length approximately 18". Boiler feed pump and condensate return system is shipped as a separate unit, permitting flexibility in installation. Complete specifications are available from the manufacturer.

Brown Electric Offers Basepanel Radiation Units

BASEPANEL radiation units, available from Brown Electric Co., Forest Hills, N. Y., are offered in one size unit, which can be adapted to various sized requirements. Units consist of radiator brackets, finned coils, cover panels and fittings. Radiant heat is furnished by the Basepanel, convection heat from the finned coil.

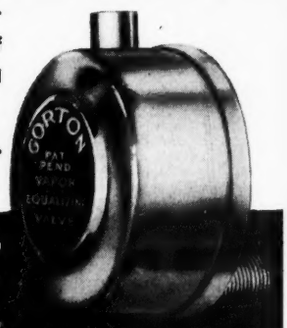
Packed in individual cartons, standard finned coils are 4½' long, cover

How I get rid of "cold room" problems!

"The Gorton System of Vaporizing and Equalizing existing steam heating systems is a sure CURE for COLD ROOMS . . . Whenever my customers complain of uneven heat distribution I install the GORTON SYSTEM . . . It can be depended on to give even heat distribution to every room."

GET THE FACTS
Write for BULLETIN No. 116DA.

Says Mr. Charles J. Goyert, Pres.
Chas. J. Goyert & Co.
White Plains, N. Y.



GORTON HEATING CORPORATION
Manufacturers of High Grade Heating Equipment Since 1887
CRANFORD NEW JERSEY

FOR GREATER SAFETY
. . . CLEARER VISIBILITY

this Gauge wears a DOUBLE dome!

• Double Dome walls of clear plastic that is shock-proof and break-proof gives Sentry At-A-Glance tank gauges distinctive advantages. This patented feature will withstand air pressure in excess of 100 lbs. per sq. inch — Condensation will not cloud or affect its easy readability — It is guaranteed leakproof — and listed as standard by Underwriters' Laboratories. Write for details today. Investigate too, Sentry Draft Controls, for more efficient stack operation.

ON GUARD . . .
24 hours a day!

KRUEGER *Sentry* GAUGES
GREEN BAY • WISCONSIN

Modern Heating Plants
conserve fuel
save money

THERE'S BIG BUSINESS in replacing old oil burners with modern efficient heating units.

This year, sell conservation and efficiency.

GULF

Gulf Oil Corporation • Gulf Refining Company
DIVISION SALES OFFICES:
Boston • New York • Philadelphia
Pittsburgh • Atlanta • Toledo

HAGO PRODUCTS
1281 SPRINGFIELD AVE. IRVINGTON 11, N. J.

fueloil & oil heat

BOOK SHELF •

BASIC SERVICE TEXT FOR PRESSURE TYPE BURNERS

This manual was prepared by G. T. Kaufman, technical secretary of the Oil Heat Institute of America, and is intended for basic training of installers and service men in residential oil-heating. 216 pages. Paper covers.

$2.

REDUCING FUEL OIL BILLS

This booklet will help you show home-owners, in a language they can understand, how you can save money. Minimize your customers' oil bills and make a real profit.

50c

OIL HEATING HANDBOOK

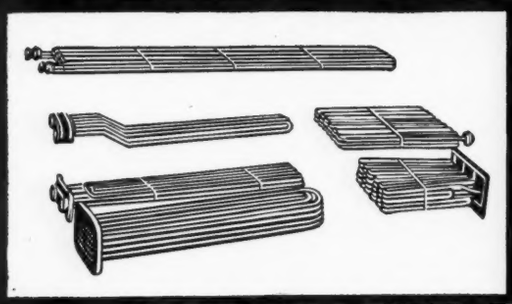
Revision of famous text by Han A. Kunitz giving complete data on all phases of oilheating. An indispensable guide to sellers and installers of equipment. 456 pages.

$5.

Because of the thousands of small orders we receive we ask that cash, stamps, money orders or checks be sent with all orders.

FUELOIL & OIL HEAT
232 Madison Ave. New York 16, N. Y.

Kam Tankless Coils



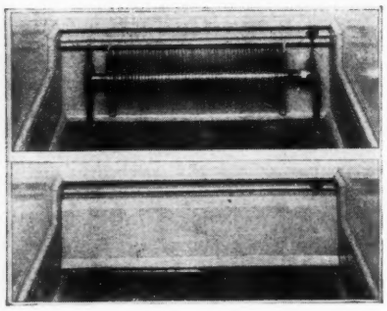
KAM

For all Steel and Cast Iron Boilers, Any Style... Any Make...

No matter what your tankless coil requirements may be, KAM is prepared to serve you on short notice. KAM gives you and your customers the advantage of 42 years' experience in the design and fabrication of water heating equipment. Modern facilities . . . modern plant . . . KAM is fully abreast of present day plant and engineering practice. Contact KAM today . . . give name and number of boiler; the correct coil will be shipped promptly.

KAM WATER HEATER MFG. CO., INC.

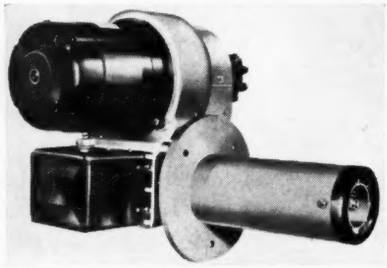
230-240 ALABAMA AVENUE BROOKLYN 7, N. Y.



panels, 5′ long. The coils can be sawed in sections to build up required length for room by sawing the ¾″ copper tubing at the desired length, remove 8 fins and join with other sections by copper sweat coupling. Corners may be negotiated by the use of copper sweat ell fittings. If desired to carry Basepanel cover from wall to wall, extra brackets and covers can be used.

Bogue Electric Develops DC Operated Oilburners

DEVELOPMENT of a line of specialized DC operated oilburners is announced by Bogue Electric Mfg. Co., Paterson, N. J. Suitable for shipboard and galley cooking operations, as well as in bakery



ovens and special cook stoves, units have capacities up to 15 gph and operate from 6 volt DC, 12 volt DC, battery supply 32 volt DC and standard 115 or 230 volt DC supply lines.

One unit is suitable for single, double, triple and quadruple burner installations. Burners incorporate a self-priming pump, eliminating the need for a separate gravity flow supply pump. Tropicalization of parts permits continuous use in humid and high temperature atmospheres.

Haydon Products Improves "Snap-On" Boiler Jacket

SNAP-ON boiler jackets, offered by Haydon Products Co., Brooklyn 15, N. Y., have been improved by including a series of air cell asbestos strips bonded to the inside of the flat sheets used to fabricate the jacket. The assembly then assumes a cylindrical shape when assembled to a cylindrical boiler and provides a free space for insertion of fiberglas or other insulation, which also is bonded to the jacket wall.

Entire units, consisting of jackets and insulation, are shipped in a flat carton.

Roth Turbine Pumps In Range of Sizes

TURBINE PUMPS, available from Roy E. Roth Co., Rockland Island, Ill., are for domestic and industrial applications requiring pressures to 175 lbs., speeds to 3600 rpm, capacities to 150 gpm, viscosities to 550 SSU. A single multivaned impeller in the pump develops high pressures in single stage construction and is designed to handle liquids of extreme temperatures through use of an automatic, self-adjusting impeller. Heads and impellers are available in bronze or stainless steel and are renewable.

Sundstrand OIL BURNERS

WRITE US FOR COMPLETE INFORMATION

FOR
- CLEAN
- QUIET
- ECONOMICAL
- AUTOMATIC HEAT

SUNDSTRAND ENGINEERING CO.
ROCKFORD, ILLINOIS

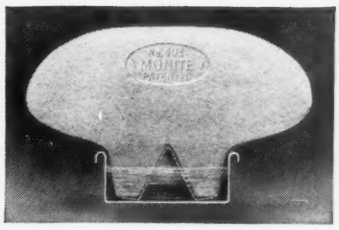
Rajah

HAND CRIMPING TOOL

IT CUTS AND STRIPS AND ALSO CRIMPS
Rajah Terminals to ignition cable without the use of solder or any other tools

The RAJAH COMPANY, Bloomfield, N. J.

MONMOUTH HUMIDIFIERS



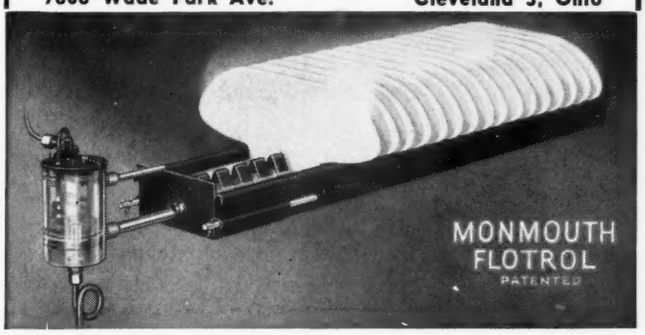
Monite ceramic diffusion plates (originated by Monmouth), acid and heat resisting, are now redesigned for greater efficiency and durability. Give rapid water absorptions, free vapor diffusion, easy cleaning. In evaporating capacity, each plate equals 50 sq. in. of water surface.

A Complete Line for all Purposes:

- **FLOTROL—the LEADING Humidifier for warm air or air conditioning.**
- **MICRO-FEED—the simple, low-cost control for drip feed operation.**
- **Monmouth HUMIDITY CONDITIONER, gas-operated, for all radiator heated buildings.**

Bulletin and prices on request.

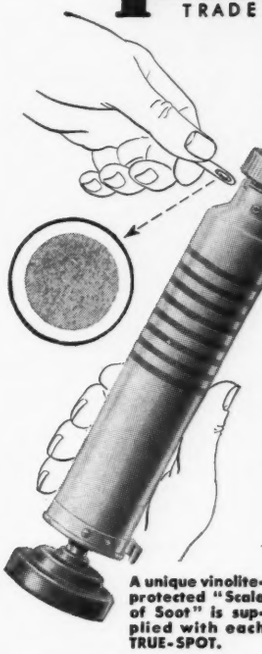
THE CLEVELAND HUMIDIFIER CO.
7808 Wade Park Ave. Cleveland 3, Ohio



The Perfect Team-Mate of the FYRITE Combustion Test Kit

TRUE-SPOT
TRADE NAME

SMOKE TESTER



A unique vinolite-protected "Scale of Soot" is supplied with each TRUE-SPOT.

Indispensable for Adjusting Oil Burners for Maximum Fuel Economy and Clean Combustion

Smoke discs like that shown at the left are obtained by simply drawing, with six pump strokes, a sample of the combustion gases from the furnace flue. Drawing the sample through the tester will turn the test disc to a shade of gray, which will vary from light to dark depending upon the smokiness of the flame. The disc is then removed from the tester and the soot content of the gas sample is measured by comparing the discoloration of the disc with the nine shadings on the "Scale of Soot." This unique scale tells you the limits of permissible smoke for various burners and types of heating systems. 100 test discs are supplied with the instrument. The handle is designed to hold test discs so that they are protected, and conveniently at hand at all times.

The TRUE-SPOT is available separately or as part of a complete combustion test kit. Ask your jobber or write for Leaflet 752.

BACHARACH INDUSTRIAL INSTRUMENT CO.
7000 Bennett Street • Pittsburgh 8, Pa.

YOU CAN'T RECALL ALL YOU READ

•

SAVE YOUR COPIES

[H]

of

fueloil & oil heat

in a BINDER

HOLDS 12 COPIES

of

fueloil & oil heat

$3

•

REMEMBER when you remembered an article in FOH and you wished that you had kept the issue in which it appeared?

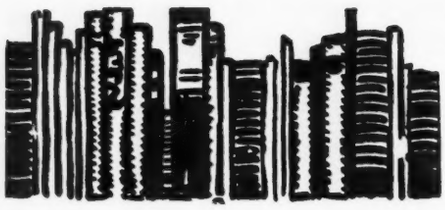
More and more FOH readers are getting the saving habit. That's why we've just purchased an additional stock of binders.

Beginning this year in the December issue, there'll be a yearly index which should be another reason for your keeping your copies in a binder.

They hold copies in place with stiff metal blades—copies just can't fall out.

Please enclose your check or money order with your order for a copy. $3 price includes shipping cost.

HEATING PUBLISHERS, INC. 232 Madison Ave., New York, 16



THE BOOK SHELF

New Service Book Covers Domestic Refrigeration

HOUSEHOLD ELECTRIC REFRIGERATION is a new edition of a valuable service book on domestic refrigerators by John F. Wostrel and John G. Praetz, both connected with University Extention, Massachusetts Department of Education. The book first was published in 1938, and now has been brought up to date, though the authors point out that changes in refrigerators are mostly refinements in manufacturing technique that should make for longer mechanical life.

The book is a complete manual on electric refrigerators from the theory to detailed installation and service methods. It gives descriptions and illustrations of various popular makes of machines, and shows the entire systems and the parts in detail. It stresses the basic points of construction and operation to help the reader understand and service almost any kind of refrigerating machine.

In addition to the step-by-step descriptive material, there are many charts and tables that provide reference material. The book is a result of the teaching experience of the authors, and is presented in non-technical language.

"Household Electric Refrigeration" contains 450 pages. The overall size is 6 x 9 inches, and is bound in cloth. Published by McGraw-Hill Book Company. Price $4.50.

George Fliehman, formerly vice president and general manager, Fuel Oil Co. of St. Louis, St. Loius, Mo., has resigned to enter his own business. *Raymond E. Lange,* employed by the company in an executive capacity for the past twenty-four years, and at present a vice president of the Fuel Oil Co. of St. Louis, has become general manager.

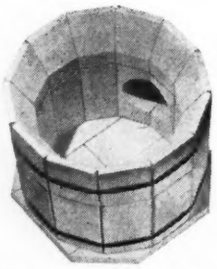
OHI Directors Meeting

(*Continued from page 59*)

mittee $4,000 from the general fund to conduct research at the ASH&VE Laboratory.

Paul Addams, Chairman of the Steel Supply Committee, pointed out that tank supplies were now easier than in July, when an industry survey showed a 60,000 tank deficit in sight for the balance of 1948. Mr. Addams described his Committee's efforts with the Department of Commerce, and its officials who administer PL-395, the Voluntary Allocation Law. After much work by Paul Addams and Lon Casler, the Oil Division has now recommended from twelve to fifteen thousand tons a month for consumer tanks, but the present act expires February 28, 1948, so there is doubt if final action will be taken by the Office of Industry Cooperation, until it is learned whether or not the date will be extended.

In a report for the Fuel Oil Supply Committee, Carl Jonswold, Chairman, showed that supplies and production in relation to anticipated demand this winter indicate little or no hardship. He

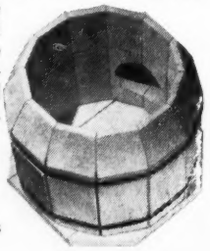


The *Instant-Glo*
CUSTOM-BUILT
INSULATING BRICK
COMBUSTION
CHAMBER

The Top Quality Installation for Maximum Efficiency

INSTANT-GLO Combustion Chambers are made of special refractory insulating bricks which get hot 10 times faster than ordinary fire bricks insuring an instant red-hot refractory surface, resulting in immediate combustion efficiency—result, oil economy 15% greater than ordinary chambers. The insulating quality of the bricks also eliminates loss of heat into base of heater.

The round shape of INSTANT-GLO Chambers eliminates air pockets and produces less combustion noise than the usual fire brick chambers. Each part is taper cut like a key stone so that chamber can not fall in. The INSTANT-GLO Chamber can be installed in one hour or less. All components of each chamber carefully packed in special carton—no breakage or loss.



SIZES:
No. 1 or 1A—1.00 to 1.35 G.P.H.
No. 2 or 2A—1.5 to 1.75 G. P. H.
No. 3—2.00 G.P.H.
Model 1A and 2A (*at right*) Special chambers for steel furnace installations.

WRITE FOR COMPLETE INFORMATION
BOSTON MACHINE WORKS COMPANY
Oil Heating Supplies Division, 7-17 Willow St., Lynn, Mass.

THE *Galongage*

The Ideal Gauge for... Basement Tanks

WHEN making replacements and checking oil burners for greater efficiency, install a Galongage.

No other gauge generally used measures in gallons—is accurate to within 1½ per cent—has easy-to-read magnifying lens—has red warning numerals starting at 50 gallons.

Galongage comes fully assembled, fits all standard basement tanks and is listed by Underwriters' Laboratories.

More than ever before your customers will appreciate Galongage accuracy, reliability and eye appeal.

When ordering, specify depth of tank and size of opening.

APPLIED MECHANICS COMPANY
167 Oliver Street Boston 10, Massachusetts

FITZGIBBONS

FUEL-SAVING STEEL BOILERS

A.S.M.E. built, Hartford inspected, S.B.I. rated

The ultimate in economical heat and domestic hot water . . . for any size installation . . . for oil burner, gas burner, stoker, hand firing. Ask your local Fitzgibbons engineer, or write us.

STEEL BOILERS Since 1886

Fitzgibbons Boiler Company, Inc. 101 PARK AVE. NEW YORK 17, N. Y.

NOW AVAILABLE!

CAT-COMB SPIRALATOR $15 net only *

* Additional To Burner Price

SILENT KORTH OIL HEAT

Will save up to 25% in Fuel

SEND YOUR ORDERS IMMEDIATELY | COMPLETE INFORMATION ON REQUEST

ALSO OIL-FIRED FURNACES AND BOILERS

ECKHART MANUFACTURING CO.

470 First Avenue West, Roselle, New Jersey

HAYWARD OIL BURNERS

Many Attractive Territories still open for Exclusive Distribution

HAYWARD MFG. CO., INC.

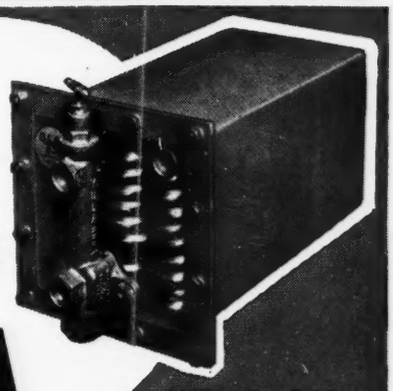
505 COURT STREET BROOKLYN 31, N. Y.

Yula

C.H.M. Residential Shell Tankless Heaters (Can be used with steam or hot water heat)

C.H.M. In-Boiler Tankless Heaters (For Residences, Apt. Houses, Industrial Buildings.) Can also be furnished as in-boiler heaters.

Write to Dept. F-11



Yula WATER HEATERS, INC.

166 WEST 225 ST. • NEW YORK 63

WRITE FOR CATALOG

In REPLACEMENTS

Quickly Learning Burner Capacities

SAVES a WHALE of TIME •

The SPECIFICATIONS BOOK of OIL BURNERS

Fully Meets This Need.

MANY times on service jobs and estimating on replacements you've been up against having to know in a hurry the capacity of burners before you could talk turkey to your customers.

Realizing that, we've gotten out the SPECIFICATION BOOK of OIL-BURNERS every two years. Now we come along with a revised edition, that's up to date through 1947, containing specifications of more than 3,000 models.

Quite a few oilburner dealers and large fuel oil suppliers buy this book in quantities to provide copies for all their servicemen or salesmen. Write for prices in quantity.

Please send check or money order with your order to facilitate bookkeeping and shipment.

DOLLARS WORTH OF HELP FOR

$1

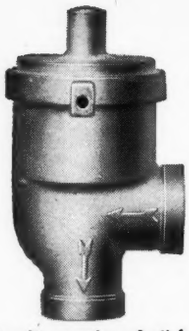
FUELOIL & OIL HEAT
232 Madison Ave.
New York 16, N. Y.

Since SIMPLEX 1910
SIMPLEX OIL HEATING CORPORATION
OIL BURNING SYSTEMS
REG. TRADE MARK

Simplex Oil Burning Systems

RESULTS COUNT!

SIMPLEX OIL HEATING CORP.
11 Park Pl., New York 7, N. Y.



Permits pumping of oil but closes to prevent syphoning in case of suction line break.

PREFERRED Anti-Syphon Valves

APPROVED BY
UNDERWRITERS' LABORATORIES, INC.

For Oils Up To No. 5—Valves C5 and C10 are available in ⅜" and ½" sizes.
For Oils Up To and Including No. 5—Valves B5 and B10 are available in ¾" and 1" sizes. (1" size is built up from ¾" size with fittings.)

PR-173

PREFERRED UTILITIES MFG. CORP.
1860 BROADWAY, NEW YORK 23, N. Y.

did warn, however, that there could be temporary dry spots due to insufficient storage in some markets, and urged that the members recognize that present soft prices in the Midwest were the result of storage being temporarily choked, and should not be taken as portents of an easy winter with further surpluses.

Refinery capacity in the country has increased 468,000 Bbls. a day during this year, and an additional 367,000 Bbls. a day capacity is being built.

In highspotting the activities of the Publicity and Legislative Committee, Chairman Matheson pointed to these accomplishments since July:

(1) Matheson and Casler met with Secretary of the Interior Krug and Max Ball, director of the Oil and Gas Division, at Washington on July 28, to iron out misunderstandings on quotations by Krug that had been detrimental to oilheating. Krug agreed to cooperate with the Institute by discussing with it any further releases on the subject.

(2) Several thousand sets of the Oil Industry Information Committee's (API) advertisements, showing adequate oil supply, were reprinted and sold to the industry for use of salesmen.

(3) Arranged numerous favorable publicity stories on ending of fueloil supply stringency, as previously listed.

(4) Cooperated with API's Oil Progress Day, October 14, by writing a speech for oil and burner men to give to local consumer audiences, published in October FUELOIL & OIL HEAT.

(5) Met with Ralph Champlin, Chairman of the Oil Industry Information Committee, and Admiral Miller, Director of the Department of Information, API, to discuss conservation and to acquaint Miller, a new man, with oilheating problems.

(6) Took steps to forestall bad publicity that had been planned by major companies on kerosene shortage possibility, in the belief that such publicity would react unfavorably on all oilheating.

(7) Convinced the Federal Reserve Board that oilburners should not be included in the new time payment restrictions, inasmuch as our industry already has an agreement on this with FHA.

(8) Prevented contemplated unfavorable publicity by the oil industry when burner manufacturers advertised that the oil shortage was over, and that now was the time to buy burners.

(9) Persuaded the Better Business Bureau to abandon its idea to issue an oilburner code on dealer behavior, and got its consent to discuss all oilheating publicity before release to newspapers.

(10) Numerous incidental activities, such as calling twice on Kiplinger of Washington to get him to be more realistic in his fueloil supply remarks.

Upon motion by Al Atwill of Quaker Manufacturing Co., Chicago, the directors voted a "citation" to the committee members for the most effective work yet done by the oilheating industry.

President Dick Bohn reminded directors that the Institute's 26th Annual Convention and Exposition will be in Boston May 16-20, 1949. Institute members will be permitted to order booth space in early November, nonmembers some weeks later.

The next directors' meeting will be held in New York, January 11, 1949.

ONLY THE HOMEASE OIL BURNER HAS THESE TWO EXCLUSIVE FEATURES:

1. *"FLAME-IZER" Complete Flame Shape Control*
2. *"FIRE-STAT" Complete Combustion Control*

HOMEASE
THE KEY TO BETTER LIVING

HOMEASE PRODUCTS COMPANY
PATERSON 3, NEW JERSEY

The **ACME** *Line*

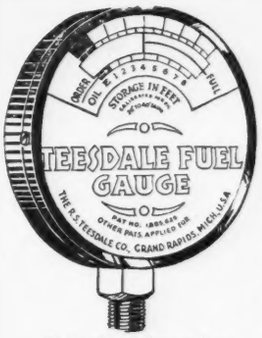
is complete for every installation from 1 to 28 gph

ACME HEAT & POWER, INC.
318 TEN EYCK STREET
BROOKLYN 6, N. Y.

FOR A COMPLETE LINE OF
RESIDENTIAL HEATING EQUIPMENT

OIL • GAS • COAL

Thatcher
FURNACE COMPANY
Garwood, New Jersey
Specialists In Heating Since 1850



TEESDALE
Remote Reading
TANK GAUGE

Can't be beaten for low cost, ease of installation, and dependable accuracy.

Fits in a tee in the suction line of the pump. Indicates any size tank—any distance away.

Write for Information

THE R. S. TEESDALE CO.
427 Market Ave., S. W. • Grand Rapids 3, Mich.

Oilheating Trends

(*Continued from page 11*)

been reached as early as the end of August shows that dealers were aware of the storage problem this year, and were pushing out every possible gallon to refill their own bulk storage.

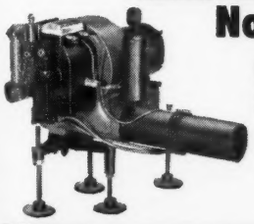
FARM OILHEATING: Some interest is developing in selling oilheating to farms, although not nearly enough in relation to the potentialities of this market. In asking dealers about their sales to farms, it was emphasized that this means working dirt farms and not suburban homes. The New England dealers report that 1.3% of their central heating oil customers are on such farms and that 1% of their installations this year were on farms. In the Mid-Atlantic states only a half of 1% of central heating oil accounts are on farms, and only one-tenth of 1% of the new installations made by reporting dealers this year went to farms. For obvious reasons the Midwest made a better showing, although still weak. Those dealers report that 4.5% of their central heating oil customers are farms, while 5.4% of their new burner installations this year went to farms.

Asked if they were making any actual effort to sell oilheating to farms, one-sixth of New England dealers say they are; none of the Mid-Atlantic dealers report making such efforts; while in the Midwest 40% say that they are.

A minority of dealers make an extra charge for fueloil delivery to farms ranging from one-tenth cent to as high as one and a half cents. Assuming that the farm is as much as fifteen miles from the supply base, New England dealers, on the average, charged an extra .2¢, Mid-Atlantic dealers charged .2¢, and the Midwest dealers averaged .5¢.

DEALER COMMENTS: Typical of dealer comments on questions of the month are these: "Two-inch steel pipe is available at prohibitive black market prices and 3/8" steel plate is in the same category" . . . "Still no assurance from our supplier of more oil than last year" . . . "Some local companies are not adding new oil accounts; others are offering four-year supply guarantees; what a business!" . . . "The oil scare is still hurting sales in that buyers have not had their confidence fully restored" . . . "Profit margin on fueloil in our city is not keeping up with competitive fuels—is this a squeeze by major companies?" . . . "Where do we go from here" . . . "We do not make installations or oil deliveries beyond a radius of fifteen miles" . . . "We service a nine-mile radius" . . . "Collections will be a problem this winter" . . . "We are losing a great deal of business to the postcard burner outlets—people today are price minded" . . . "We are still in the dark about whether there will be enough oil next winter" . . . "Fall business is running heavily to complete units with furnace and boiler unit sales up 10 to 45%, and conversion burner business down 23% from last year" . . . "Collections are much more difficult due to the higher price of fueloil; we would still take less margin and more prompt payment" . . . "We do not take C.O.D. accounts; if the customer does not justify some credit, we do not want it" . . . "The majors are pricing us out of business, selling at one cent above 'Journal' prices plus freight" . . . "We have turned to 1½" copper fills with 1" copper vents, sweat fittings, in order to install our jobs."

★ RAYFIELD ★
AUTOMATIC



No. 5 OIL BURNERS
REDUCE HEATING COSTS...
INCREASE YOUR PROFITS

Burn No. 5 heavy fuel oil. Self-contained, all electric. Self-lubricating. Many new exclusive features. Write for full details.

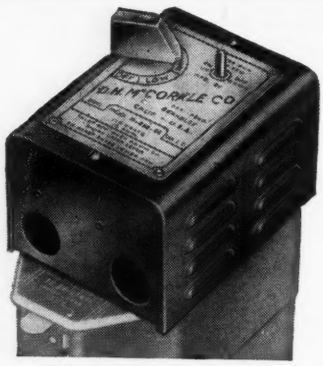
GOOD TERRITORIES OPEN

C. L. RAYFIELD CO.
2010-18 S. Halsted St., Chicago 8, Ill.

ONLY THE
Paragon Oil Burner
FEATURES
THE Paratrol
COMBUSTION HEAD
IT'S NEW—IT SAVES OIL!

Paragon Oil Burner Corp.
75 Bridgewater Street, Brooklyn 22, N. Y.
Gentlemen:
Please rush me your dealer proposition today.
Name_____
Address_____

POB 190-948



Dealers! **Expand your sales with the R-458 Control**

R-458 + Old Customers . . . . = SALES
R-458 + Troublesome Installations = SALES
R-458 + New Appliances . . . . = SALES

With the R-458 Control, Air Adjustments are made on Low, Medium and High Fires.
For the Job — On the Job.

Write for Bulletin #J-1020

D. H. McCORKLE CO. • **Box E Station A, Berkeley, California**

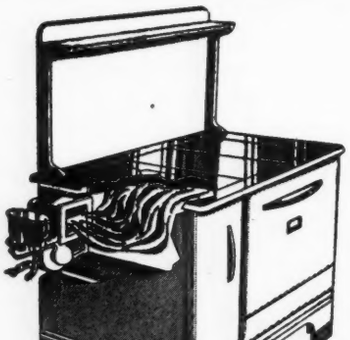
Profits!

Through the

SUPER-THERM

Combination

OIL BURNER



SALES prospects for this modernizing, easily installed oil burner are *all* owners of gas, wood and coal stoves and ranges. Super-Therm fits any size stove, front or rear —will last a lifetime—will not soot or smoke—has automatic safety features. Write now for details and *dealer profit* facts.

THERM OIL BURNER CO.
Pioneers of the Oil Burning Industry
2105A Westlake Avenue
SEATTLE 1, WASHINGTON

DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	September		Percent		(Sept. 1 to May 31)			Percent
Normal	1947	1948	Change*		Normal	1947	1948	Change*
116	185	83	— 28.4	Albany	6587	6531	7398	+ 12.3
12	23	7	— 41.6	Atlanta	2999	2922	2818	— 6.0
34	87	25	— 26.5	Baltimore	4509	4147	4469	— 0.9
98	137	76	— 22.5	Boston	5853	5415	6162	+ 5.3
125	168	93	— 25.6	Buffalo	6805	6450	6687	— 1.7
84	139	19	— 77.4	Chicago	6205	6269	6306	+ 1.6
52	84	26	— 50.0	Cincinnati	4993	4917	4590	— 8.1
92	123	56	— 39.1	Cleveland	6094	5852	6050	— 0.7
5	0	2	— 60.0	Dallas	2378	2475	2693	+ 13.2
124	73	37	— 70.1	Denver	5784	5894	5533	— 4.3
99	103	36	— 63.6	Des Moines	6356	6452	6361	+ 0.1
109	150	74	— 32.1	Detroit	6502	6280	6522	+ 0.3
126	161	55	— 56.4	Grand Rapids	6655	6367	6467	— 2.8
106	158	90	— 15.1	Hartford	6037	5809	6578	+ 8.9
288	283	255	— 11.5	Helena	7600	7887	7853	+ 3.3
..	0	0	..	Houston	1333	1489	1557	+ 16.8
65	106	44	— 32.3	Indianapolis	5459	5399	5369	— 1.7
50	41	13	— 74.0	Kansas City	4971	4869	4962	— 0.2
5	1	4	..	Los Angeles	1362	1335	1484	+ 9.0
34	61	19	— 44.1	Louisville	4421	4277	4351	— 1.6
120	160	47	— 60.1	Milwaukee	6955	7170	7212	+ 3.7
163	203	60	— 63.2	Minneapolis	7898	7888	8008	+ 1.4
..	182	89	..	New Orleans	1208	1380	1626	+ 34.6
51	105	20	— 60.8	New York	5270	4833	5367	+ 1.8
81	88	36	— 55.6	Omaha	6074	6142	6217	+ 2.4
36	95	21	— 41.7	Philadelphia	4720	4693	4923	+ 4.3
69	111	60	— 13.1	Pittsburgh	5427	5267	5443	+ 0.3
179	147	99	— 44.7	Portland, Me.	7128	7129	7672	+ 7.6
109	67	121	+ 11.0	Portland, Ore.	4214	4161	4204	— 0.2
104	133	68	— 34.6	Providence	5946	5335	6393	+ 7.5
36	73	16	— 55.6	St. Louis	4602	4650	4768	+ 3.6
95	110	63	— 33.7	Salt Lake City	5568	5721	5782	+ 3.8
122	136	154	+ 26.2	San Francisco	2569	2971	2866	+ 11.6
281	310	193	— 31.3	Sault Ste. Marie	8901	8943	8888	— 0.2
174	155	180	+ 3.4	Seattle	4560	4417	4680	+ 2.6
98	156	76	— 22.5	Toledo	6202	6178	6460	+ 4.2
43	87	27	— 37.2	Washington	4582	4036	4369	— 4.6

*Compared with normal.